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14. ABSTRACT

   This paper concludes that the U.S. is deficient at IO because the ethos of IO involves confronting issues and ideas which are directly at odds with the "American Way of War." The creation of IO as a subordinate discipline is itself a reflection of the American preference for conventional combat characterized by fast, decisive application of overwhelming mass, firepower and technological overmatch conducted in an environment free from political interference. Whereas U.S. military culture maintains an aversion for all things political, IO is inherently political. Not in the contemporary sense of "politics" or the whim of political parties, it is political in the Clausewitzian sense that IO is inherently concerned with the purpose, or logic, of war.
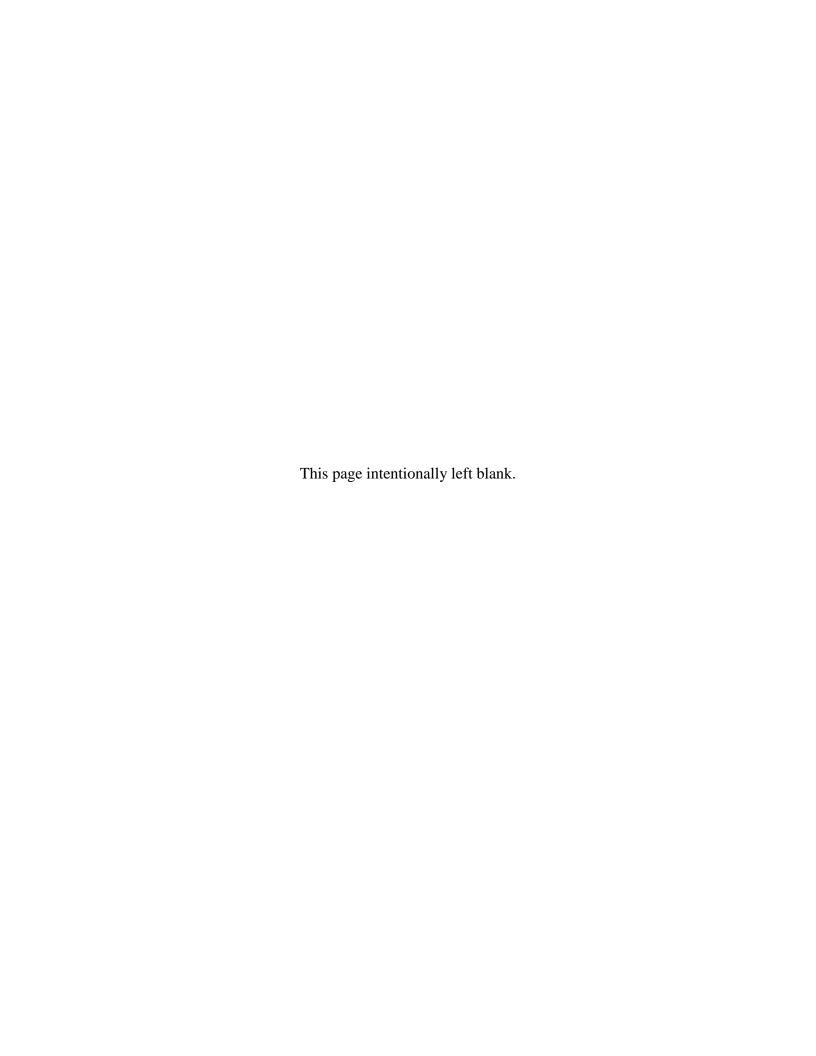   The American warfighting ethos must come of age. Doing so will require that the American defense establishment collectively recognize that IO is a transformational concept, not a capability. With that idea accepted, the American military can begin to develop an Information Age operational art. Developing the necessary mindset to do so will require an increased emphasis across the uniformed services on officer education.

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JOINT FORCES STAFF COLLEGE
JOINT ADVANCED WARFIGHTING SCHOOL

Coming of Age:

Information Operations and the American Way of War

by

Bryan N. Sparling
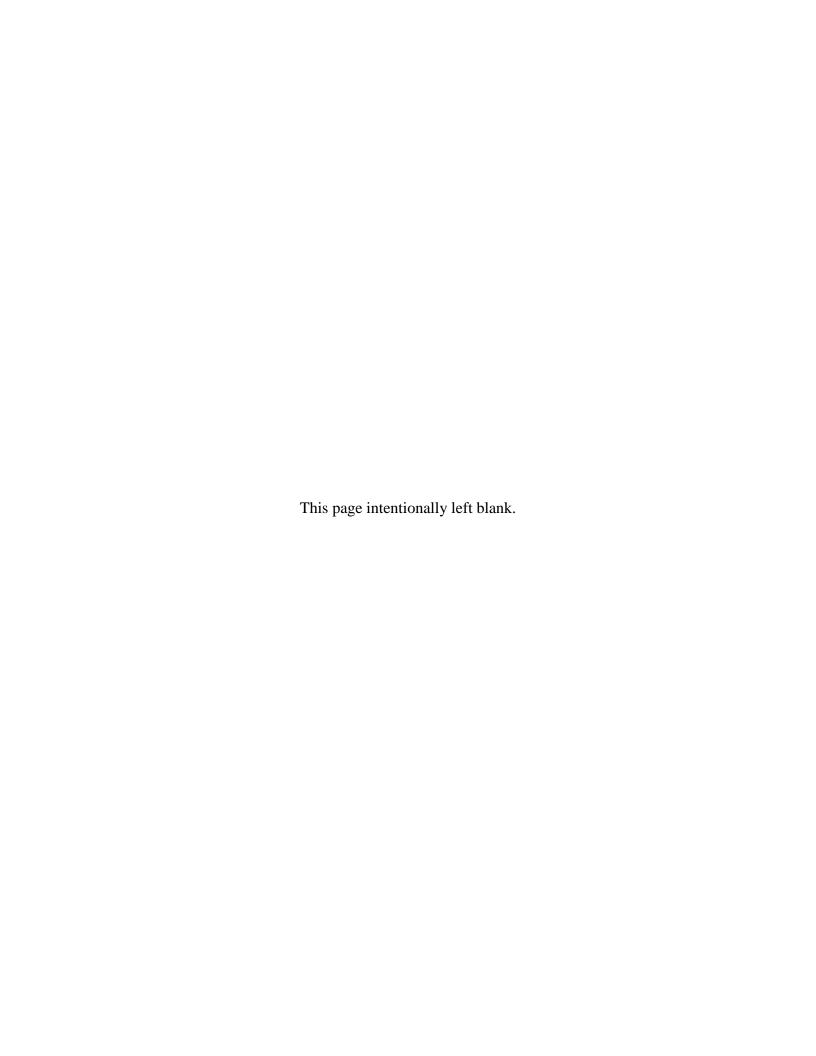
Lieutenant Colonel, U.S. Army

A paper submitted to the Faculty of the Joint Advanced Warfighting School in partial satisfaction of the requirements of a Master of Science Degree in Joint Campaign Planning and Strategy. The contents of this paper reflect my own personal views and are not necessarily endorsed by the Joint Forces Staff College or the Department of Defense.

This paper is entirely my own work except as documented in footnotes.

Signature: _____

16 June 2010

Thesis Adviser: Dr. Bryon Greenwald

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ABSTRACT

Why doesn't the U.S. military excel at Information Operations (IO)? There is broad based agreement that IO is essential for success in Information Age conflict. Yet after fifteen years of trying, the services have not agreed on a single definition for what IO should entail, have not determined how best to organize to execute IO, and have not streamlined resources and authorities to enable effective action.

This paper concludes that the U.S. is deficient at IO because the ethos of IO involves confronting issues and ideas which are directly at odds with the "American Way of War." The creation of IO as a subordinate discipline is itself a reflection of the American preference for conventional combat characterized by fast, decisive application of overwhelming mass, firepower and technological overmatch conducted in an environment free from political interference. Whereas U.S. military culture maintains an aversion for all things political, IO is inherently political. Not in the contemporary sense of "politics" or the whim of political parties, it is political in the Clausewitzian sense that IO is inherently concerned with the purpose, or logic, of war.

What this means is not that the U.S. needs to figure out how to "do IO." Rather, what the nation needs is a fundamental transformation of its military culture. Prevailing in Information Age conflict is not as much a function of creating new supporting disciplines and capabilities as it is a matter of developing a more holistic approach within the American art of war. The American warfighting ethos must come of age. Doing so will require that the American defense establishment collectively recognize that IO is a transformational concept, not a capability. With that idea accepted, the American military can begin to develop an Information Age operational art. Developing the necessary institutional mindset to do so will require an increased emphasis across the uniformed services on officer education.

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Chapter 1

INTRODUCTION

Everything in war is very simple, but the simplest thing is difficult.
                -Carl von Clausewitz[1]

Perhaps nothing exemplifies more completely Clausewitz's famous dictum than

the U.S. military's ongoing attempts to formulate coherent "information operations"

doctrine. Now more than halfway through its second decade of existence, Information

Operations (IO) is no closer to becoming a mature joint concept, on par with maneuver,

fires, intelligence, sustainment or communications, than when it first emerged on the

heels of Desert Storm. Despite being identified in the 2001 Quadrennial Defense Review

as a critical Department of Defense (DoD) core competency, publication by the Secretary

of Defense of a detailed IO "roadmap", establishment of numerous IO commands and

schools across the services and Joint community, designation of a lead Combatant

Commander for IO, and the expenditure of untold millions of defense dollars, IO

continues to be little understood by warfighting commanders and inconsistently executed

across services, echelons and rotations through Iraq and Afghanistan. A formal IO

capability assessment of Army and Joint Headquarters in Iraq recently performed by the

Center for Army Lessons Learned concluded that "the doctrinal concept of IO as a

combat multiplier seems to be universally misunderstood at nearly every level."[2]

Every American warfighting concept since Operation Desert Storm – Joint Vision

(JV) 2010, JV 2020, Network Centric Operations (NCO), and the recent Capstone

Concept for Joint Operations (CCJO) – has emphasized the importance of gaining

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[1] Carl von Clausewitz, *On War* (Princeton: Princeton University Press, 1976), 119.
[2] Center for Army Lessons Learned, *Gap Analysis Report 08-31: Information Operations*
(Leavenworth: Center for Army Lessons Learned, May 2008), vii.

"Information Superiority" in twenty-first century warfare. Most often IO has been heralded as a primary means by which the Joint force gains Information Superiority. Given the prominent place of IO in this conceptual literature, one would think that the services would have enthusiastically embraced IO and made operationalizing it the highest of priorities. This has not been the case.

In recent years a few courageous senior officers have published articles revealing how their command experiences in combat opened their eyes to the central importance of employing an informational approach in modern warfare. After commanding the Multi-National Corps-Iraq, Lieutenant General Thomas Metz wrote that "there appears to be an emerging recognition among warfighters that a broader and more aggressive, comprehensive, and holistic approach to IO – an approach that recognizes the challenges of the global information environment and seamlessly integrates the functions of traditional IO and PA – is required to succeed on the Information Age battlefield."[3] These commanders learned that they cannot delegate IO as a subordinate function that supports kinetic operations. Following his command of the 1st Cavalry Division in Iraq in 2004, General Peter Chiarelli, currently the Army Vice Chief of Staff, concluded that commanders must personally drive IO because our "regulations, bureaucratic processes, staff relationships, and culture complicate the ability of our soldiers and leaders to achieve synchronized nonlethal effects across the battlespace."[4] Moreover, a commander cannot add IO on as an after-thought to smooth over the negative consequences of lethal force. As the saying goes, "You cannot put lipstick on a pig." Instead, in the politically

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[3] Lieutenant General Thomas F. Metz, "Massing Effects in the Information Domain," *Military Review,* May-June 2006, 5.

[4] Major General Peter W. Chiarelli, "Winning the Peace: The Requirement for Full-Spectrum Operations," *Military Review*, Jul-Aug 2005, 15.

charged environment of counterinsurgency warfare commanders must seamlessly

integrate ideas and actions.[5] This means considering perception first, and then asking,

"How can we shape the action to support the message?"[6]

  As impressive as these commanders' revelations are, one must ask: Why weren't

equally impassioned articles written by senior commanders a decade earlier following

U.S. experiences in Desert Storm, Somalia and the Balkans? What is perhaps most

remarkable about these articles is how atypical they are. After more than eight years of

fighting in irregular environments, very few commanders have written seriously about

competence in IO as a necessity for battle command.[7] How can it be, after a decade that

saw the U.S. military participate in an ever increasing number of deployments in

complex, media saturated environments, that our military continues to produce senior

commanders with virtually no IO experience? Consider this survey of Battalion and

Brigade level commanders serving in Iraq in 2003-2004:

> Throughout the Iraq Operating Environment, U.S. commanders grappled with the
> concept of IO across the range of military operations (ROMO). This is evident
> from many statements made by commanders. Some affirmed that this is an IO
> fight and that it should be the priority for Coalition efforts, while one commander
> stated that the only way to eliminate the insurgency was to kill every one of
> them. Another stated that we will not be able to win the hearts and minds of the
> Iraqis, but may be able to win their minds; in their hearts, they will always hate

[5] Center for Army Lessons Learned, *XVIII Airborne Corps as Multinational Corps Iraq Initial Impressions Report* (Leavenworth: Center for Army Lessons Learned, 11 Jun 2009), 1. This report states that, "it was essential to have a planning and synchronization process that would facilitate the employment of all available lethal and non-lethal combat power in a way that would achieve synergistic results."

[6] Chiarelli, "Winning the Peace," 15.

[7] This paper heavily references three warfighters: General Peter W. Chiarelli, Lieutenant General Thomas F. Metz and Colonel Ralph O. Baker. The author's search of *Military Review, Parameters, Joint Forces Quarterly, Proceedings, Marine Corps Gazette,* and *Air and Space Power Journal* since 2001 identified only three other articles written by senior (O-6 or above) warfighters that directly addressed the importance of IO and how to better integrate IO into operations. See COL(P) Patrick Donahue, "Combating a Modern Insurgency: Combined Task Force Devil in Afghanistan," *Military Review*, Mar/Apr 2008, 25-41; Admiral James O. Ellis Jr., "U.S. Strategic Command: Meeting Global Challenges," *Joint Forces Quarterly*, Issue 35 2004, 28-34; Col Christopher Roosa, "Information Operations [not equal to] Tactical Messaging," *Marine Corps Gazette*, Feb 2009, 36-40.

us. Yet another commander stated that IO was not an option, but that offensive operations should be the main effort.[8]

As General Metz asks, "Why is it we can't seem to be the best at IO as we are in so many other areas?"[9] The answer lies in what has been called the "American Way of War."

This paper contends that the invention of IO by the U.S. military is a reflection of America's idealized warfighting style. In 1973, historian Russell Weigley identified that the history of American conflict has been characterized by a preference for the direct approach and strategy of "annihilation" that seeks the destruction of enemy forces with overwhelming force in a decisive engagement that ends conflict quickly.[10] Moreover, and perhaps more important for IO, is the distinct belief within the American military profession that the uniformed services should be allowed to execute combat operations without interference from political masters. American servicemen are content to have civilian masters tell them when and where to fight, but not how. Accordingly, uniformed service culture exhibits a consistent disdain for what Clausewitz called war's "logic."[11] It is only in very recent history that U.S. warfighting doctrine gave any significant consideration to strategy in a Clausewitzian sense – linking tactical engagements to strategic ends.

It is within this context that the U.S. military conceived of a separate class of "information operations." Concerned solely with perception, communication, and meaning, IO is innately associated with the logic of war. As such, U.S. military culture

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[8] Center for Army Lessons Learned, *CALL Newsletter 04-13: OIF Initial Impressions Report,* (Leavenworth: Center for Army Lessons Learned, May 2004), 1.
[9] Metz, "Massing Effects in the Information Domain," 4.
[10] Russell F. Weigley, *The American Way of War* (New York: Indiana University Press, 1973), xxii.
[11] Clausewitz, *On War,* 605. Clausewitz's central message is that war is a political instrument. Policy therefore gives war its purpose and meaning; he called this war's "logic."

envisioned this necessary, but despised, suite of concepts as something apart from the understood responsibilities of warfighting commanders. The U.S. Army, which has held by far the largest sway in development of IO theory and doctrine, did not incorporate IO into its capstone *Field Manual 100-5 Operations,* but instead created a new, companion: *FM 100-6 Information Operations.* In effect, from its very genesis, IO was conceived of as distinct from Operations. The connotation was of two characteristically discrete concepts: Operations versus Information Operations. At the Joint level, *Joint Publication 3-0 Operations* was similarly provided a subordinate companion: *JP 3-13 Information Operations.* IO was a *part of* joint operations, but not central to them.

As it stands today, IO remains an ill-defined and ineffective joint operational concept.[12] In an age when the strategic implications of tactical actions are intimately linked and instantly disclosed, IO faces toward the past, shielding military commanders from the strategic and political implications of war. This absurdity, which stems from a selective reading of Clausewitz, must end. For too long the American military has denied Clausewitz's premise that all of war is permeated by policy, preferring to believe that the accomplishment of military objectives (destruction of the enemy force) is a sufficient end in and of itself. As a result, service culture remains unconcerned with how to transform military victory into sustainable peace. To succeed in the twenty-first century, where the lines between war and peace continue to blur, America must do better.

To succeed in Information Age conflict, the U.S. military must develop and inculcate a contemporary operational art that subsumes Information Operations

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[12] Center for Army Lessons Learned, *Gap Analysis Report 08-31: Information Operations* (Leavenworth: Center for Army Lessons Learned, May 2008), vii. This report concludes, "Doctrine within this field does not meet the requirements for the current force or future force."

and embraces the political nature of war. As part of an intentional effort to transform military culture, the uniformed services must embrace the fullness of Clausewitz's difficult, but timeless, teaching about the nature of war. With Clausewitz as a foundation, the American defense establishment must expand the concept of Operational Art beyond the physical realm so that every commander carries an innate appreciation for the cognitive reality of war. By doing so, the American way of war can come of age.

The balance of this thesis is divided into four chapters. Chapter 2 is an Information Operations primer. IO has had a complicated history; subsequently, the term means different things to many people. This chapter clarifies some of the confusion for those both inside and outside of the IO community. Chapter 3 provides insight into the causes and assumptions inherent in the American way of war and how they have led the U.S. military to conceive of physical and informational activities as categorically separate and distinct endeavors. Chapter 4 examines the changing character of warfare throughout United States history. Vignettes from 1789 and the present are used to illustrate the increasing connection between tactical activities and strategic effects and the accelerated interaction between elements of Clausewitz's Paradoxical Trinity. Chapter 5 concludes with three recommendations for how the U.S. military should transform its warfighting culture and improve its ability to wage Information Age war.

Chapter 2

UNDERSTANDING INFORMATION OPERATIONS

You ask ten different people what IO is, and you'll get ten completely different answers. We have a lot of doctrinal work to do here.[1]
            —General Kevin P. Chilton
            Commander, U.S. Strategic Command, 2009

Army IO is PSYOP.[2]
            —Colonel Curtis D. Boyd, 2007

Information Operations are marketing communications.[3]
            —Captain Stoney Trent & Captain James Doty III, 2005

…it is necessary for IO officers to become resident experts…in…cultural anthropology.[4]
            —Major Walter E. Richter, 2009

Detainee healthcare [is] part of Information Operations.[5]
            —Lieutenant Colonel Beverly D. Patton, 2009

IO should be a strategy used to horizontally synchronize efforts across the staff.[6]
            —Major Nicoline K. Jaramillo, 2009

IO is the new semantics of war and peace, of wealth and democracy. Information is…a substitute for violence, for wealth, and for capital, labor, time and space.[7]
            —Robert David Steele, 2006

What is Information Operations? As the Commander of U.S. Strategic

Command, who has functional proponency for IO, clearly articulates, IO is a widely

confused concept. As a term, "IO" is frequently employed within the American military

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[1] As delivered orally to the Joint Force Staff College, September 2009. Quote verified and used by permission of Gen Chilton. Major Joseph A. Conti, Aide-de-Camp to CDRUSSTRATCOM, e-mail message to author, February 18, 2010.

[2] Colonel Curtis D. Boyd, "Army IO is PSYOP," *Military Review*, May-June 2007, 67.

[3] Stoney Trent, "Marketing: an overlooked aspect of information operations," *Military Review,* July 1 , 2005, 71.

[4] Walter E. Richter, "The Future of IO," *Military Review,* Jan-Feb 2009, 104.

[5] Beverly D. Patton, "Detainee Healthcare as part of Information Operations," *Military Review*, July-August 2009, 52.

[6] Nicoline K. Jaramillo, "Information Operations: Where Has It Gone?" *IO Journal*, September 2009, 18.

[7] Robert D. Steele, *Information Operations: All Information, All Languages, All the Time,* (Oakton: OSS International Press, 2006), 2.

establishment, but most often to little effect. What use is a term if no one in the room agrees on its meaning? Worse, what if everyone assumes they agree and yet actually harbor very different understandings? While to some degree this is always the case in human communication, the matter could hardly be worse than with IO.

This chapter provides an overview of the various interpretations of what IO is to the major communities within the U.S. defense establishment. The chapter does not attempt to provide a final definition for IO, since that task has proved elusive for nearly two decades. Instead, the chapter attempts to provide context in order that those inside and outside the IO community might understand one another better.

Critical Perspectives

It is often said that what you see depends on your perspective. Nothing could be truer for IO. Information is a persistently difficult word to define and probing for its precise meaning quickly leads into murky philosophical depths. Something as seemingly straightforward as information turns out to be a highly complex concept that engages the essence of what it means to be human.[8] As a result, "information" has too many meanings to provide a solid foundation upon which to build military doctrine. The multiple meanings for "information" lie at the heart of our doctrinal challenges with IO.

This paper examines five U.S. perspectives concerning IO: Army, Navy, Air Force, Marine Corps, and Joint. However, it is important to recognize that there exists today an "IO community" that encompasses not just DoD military and civilians, but also academics, consultants, defense contractors, industry affiliates, and even hobbyists, that

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[8] Bryan N. Sparling, *Information Theory as a Foundation for Military Operations in the 21st Century,* School of Advanced Military Studies (SAMS) Monograph, (Leavenworth: U.S. Army Command and General Staff College, 2002).

all have strong opinions as to what constitutes IO. Given that this is a military analysis, the paper concludes that the views of members of the various subsets of this larger IO community primarily align with one of the five service perspectives depending upon background or current employers.

While the analysis in this chapter concludes that great disparity characterizes IO across the services, there is an even more important perspective that cuts across all the services and relates directly to the thesis of this paper: the perspective of *commanders*. The term "commanders" refers broadly to those officers and senior NCO's who are in the "command track" of any of the uniformed services. Specifically "commanders" makes reference to the discrete group that provides the core leadership to major operational formations and from which the services perpetually select their senior leaders. For the Army and Marine Corps this broadly consists of Combat Arms officers. In the Air Force, it refers to Rated Pilots, and in the Navy, Unrestricted Line Officers.[9]

The perspective of commanders toward IO is critically important because the root issue for American IO ineptitude is cultural. As will be established in chapter 3, IO was created by a military culture that did not want to deal with the issues that IO inherently confronts. As a result, the U.S. military created an IO community that harbors an internal understanding of what their charter is, but this understanding broadly conflicts with the external understanding of what IO is intended to do as understood by commanders.

From an external perspective, the one largely held by commanders and operators, *IO is a set of capabilities*. But to those internal to the IO community, *IO is an integrating*

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[9] The terms "operators" and "warfighters" are also frequently employed to refer to this general group. This paper interchangeably uses the terms "commanders, operators" and "warfighters" to refer to this core leadership of the uniformed services.

strategy. This differentiation is subtle, but it is the root of all turmoil concerning IO. To understand this better, consider the current Joint definition for IO:

> Information operations (IO) are the integrated employment of electronic warfare (EW), computer network operations (CNO), psychological operations (PSYOP), military deception (MILDEC), and operations security (OPSEC), in concert with specified supporting and related capabilities, to influence, disrupt, corrupt, or usurp adversarial human and automated decision making while protecting our own.[10]

When operators read this definition, they see a list of capabilities. Indeed the principal external understanding is that IO *equates* to PSYOP and Public Affairs (PA), and sometimes Cyberspace.[11] Those operators who have taken more effort to understand IO will know that there is also EW, OPSEC and MILDEC, and that PA actually requires some autonomy from IO. Another common generalization is that IO and Strategic Communication are the same thing.[12]

Contrast this understanding with the internal perspective of IO. Those inside the IO community place heavy emphasis on the definitional words "integrated employment" and "in concert with." Why? Because those within the community know that there is an enormous difference among the various "elements" that have been lumped together under the IO umbrella. An EW specialist and a PSYOP specialist have virtually no overlap in their professional knowledge; they only share a vague semantic commonality to the concept of "information." The same is true for virtually all the other related IO capabilities. The "elements" grouped together under the doctrinal construct of IO have

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[10] Department of Defense, *Joint Publication 3-13: Information Operations,* (Washington D.C.: Chairman of the Joint Chiefs, 13 Feb 2006), ix.

[11] Ibid., x. Doctrine doesn't help much with this misunderstanding. JP 3-13 states flatly, "IO consists of five core capabilities which are: PSYOP, MILDEC, OPSEC, EW, and CNO." See also Boyd, "Army IO is PSYOP," which speaks to the general conflation of IO and PSYOP.

[12] Dennis Murphy, "Talking the Talk: Why Warfighters Don't Understand IO," *IO Journal*, April 2009. Murphy addresses the general external perspective of IO held by commanders and operators.

no more in common than do B-52's and F-16's, M1 Tanks and Paladin Artillery, or DDG Destroyers and SSB Submarines. They are only similar in one key aspect: they do not deliver kinetic effects, and as such they are not readily integrated into the American culture of war.

The U.S. military created IO to integrate into operations what operators did not want to integrate for themselves. An IO specialist is *not* someone who knows how to *do* PSYOP, PA, EW or Cyber Operations. An IO specialist is supposed to know enough about these capabilities to act as bridge between them and the commander, to act as a cross-staff integrator. Consider this line from a recent Army Lessons Learned Report: "Effective IO is simply a horizontal synchronization effort. [IO] aligns all the unit's extant functions and operations to the commander's intent."[13] This comment begs an institutional question: are a majority of commanders, chiefs of staff and operations officers looking to their IO sections to perform this function? Most often they are not, and well they shouldn't because integrating capabilities is the responsibility of core planning and operations processes.[14] Synchronization is "commander's business" and there is nothing "simple" about it. Because of these mismatched perspectives, the IO

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[13] Center for Army Lessons Learned (CALL), *Gap Analysis Report 08-31: Information Operations* (Leavenworth: Center for Army Lessons Learned, May 2008), vii.

[14] CALL, *III Corps as Multinational Corps Iraq Initial Impressions Report* (Leavenworth: Center for Army Lessons Learned, April 2008), 120-121. Consider this vignette from MNCI in 2008, "The III Corps IO planning staff established an IO Working Group (IOWG) to serve as a planning or long-range tool, but based on the fast-paced environment that became difficult. Without the assignment of an individual of sufficient rank (O6 recommended) and delegated directive authority, participation, and compliance of supporting staff elements could not be ensured. The working group was rendered ineffective. Much of what was normally done at the IOWG was accomplished outside the official meeting process. Coordination and synchronization of efforts occurred in other venues more aligned with current operational planning."

staff section often appears to be a "stovepipe with undefined and unresourced missions…that does not seem relevant to combat operations."[15]

How is it that we have created an entire sub-community in the U.S. defense establishment that appears to be so critical and yet does not integrate well into our warfighting system?[16] The answer lies in the history of IO.

IO History

Desert Storm through the Balkans

It was during the heady days following the overwhelming victory of Desert Storm that the word "information" was so firmly planted in the U.S. military vocabulary.[17] Following the 1991 Gulf War, "information warfare" became a term of heated discussion. Not only had that war been more immediately broadcast to a global television audience than ever before, but information had played a crucial role in the American tactical dominance of the conflict. Space-based sensor and intelligence capabilities gave coalition forces near perfect knowledge of Iraqi unit locations. The most advanced communications and computer systems ever seen in warfare enabled real time redirection

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[15] CALL, *Gap Analysis Report 08-31: Information Operations*, vii.

[16] CALL, *XVIII Airborne Corps as Multinational Corps Iraq Initial Impressions Report,* (Leavenworth: Center for Army Lessons Learned, June 11, 2009), 22-26. Witness the experience of the MNCI IO Cell in March 2009: The XVIII Corps IO Cell was "aligned under the C3 but worked directly for the DCG-O with 253 personnel assigned." This "IO Cell conducted a weekly Corps-wide IO MND VTC (external IOWG) lasting normally 30 minutes with no real agenda [and] therefore no requirements for deliverables and synchronization of efforts." Additionally, the "IO cell led [a] Communications Strategy Working Group (CSWG)" despite the fact that the "IO section believed they did not conduct Strategic Communications as that was the responsibility of Multi-National Force- Iraq (MNFI)." Finally, despite the fact that Key Leader Engagement (KLE) is the doctrinal responsibility of the Corps G7 [IO], "the CSWG did not synchronize nor coordinate any KLE…the KLE Cell worked for the Commander's Initiatives Group while the IO staff was separate…causing some friction and confusion."

[17] Of course the history of information in warfare is as old as warfare itself, but Desert Storm marks a clear turning in the evolution of U.S. military; concepts such as Information Dominance, Information Operations and Information Superiority all began to appear after Desert Storm. For a thorough history tracing the evolution of IO back prior to Desert Storm and up through 2009, see Jaramillo, "Information Operations: Where Has It Gone?"

of joint forces in reaction to enemy movements. Moreover, coalition forces successfully

synchronized electronic jamming and psychological operations (PSYOP) with artillery

and maneuver to influence the surrender of numerous Iraqi units with little-to-no use of

lethal force.

"Information" provided an apt descriptor for the diverse ways in which

technology had changed the conduct of war. Intelligence and surveillance, command,

control, and computers and influence warfare were all conveniently discussed afterwards

under the broad heading of "information warfare (IW)." Allen Campden published a

book entitled *The First Information War,* which focused solely on the command and

control aspects of Desert Storm.[18] Other books would follow that used the term "IW" in

different ways. As the Internet exploded as a global, transforming phenomenon,

business, finance, and consumers migrated to the World Wide Web and so, accordingly,

did crime. Computer security expert Winn Schwartau warned loudly in his 1994 work

Information Warfare that "chaos" was breaking out "on the electronic superhighway."

"Hackers" and "phreaks" constituted a genuine threat to everyone's security online and

the U.S. needed to prepare for all out "war" in the information realms if we were to

preserve the internet as a useful medium.[19] While Campden's book referred to IW as the

use of information in conventional war, Schwartau's book used the term "war" as a

metaphor for the criminal threat that civilians, organizations and businesses face in doing

business using information technology. Thus, as early as 1994, *Information Warfare* was

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[18] Alan D. Campen, *The First Information War* (Fairfax: AFCEA International Press, 1992).
[19] Winn Schwartau, *Information Warfare: Chaos on the Electronic Superhighway* (New York: Thunder's Mouth Press, 1994), 1.

the title for two significant books of broadly divergent topics. Imprecision had already

begun to plague information related terminology.

Nonetheless, the defense community eagerly embraced the term. OSD published

a classified directive on IW in December of 1992 and the services quickly scrambled to

organize IW commands.[20] In the mid-1990's, the term Information Operations (IO)

emerged in recognition of the reality that informational activities did not take place only

in times of declared war. By this time, the services and the Joint community each had a

single operational command from which they could centrally provision their fledgling IO

resources out to high priority missions – most notably, Stability and Support (SASO)

operations in Bosnia and Kosovo. Personnel from these early IO formations performed

numerous rotations through the NATO-led stabilization task forces, where IO began to be

understood as an operational concept for low-intensity conflict.[21]

By the turn of the twenty-first century, IO was becoming a more broadly

recognized term. The services continued to dedicate increasing numbers of personnel to

various IO programs and initiatives. The Joint community and the services each

produced varying definitions, organizational structures and skill ratings for IO. As the IO

community evolved, "info warriors" in each of the services struggled to reconcile and

deconflict varying conceptions of IO. All this inwardly focused attention was beneficial

in creating a sense of professionalism and identity; however, this was a community that

grew increasingly disconnected from mainline planning and operations cultures. In many

headquarters the Deep Operations or Targeting Cells became the main point of

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[20] Benjamin F. Crew, Jr., "Information Warfare, Organizing for Action" (Thesis, Naval War College, 1996), 3.
[21] Stephen W. Shanahan, and Garry J Beavers, "Information operations in Bosnia," *Military Review*, Nov/Dec 1997, 53-63.

integration for IO and the Field Artillery's Detect, Decide, Deliver, Assess (D3A)

targeting process became the preferred method to plan and direct IO under the auspices of

"non-lethal fires." To the extent that this took place, commanders and operators had the

perception reinforced that IO was part of the U.S.'s evolving warfighting system, but not

something to be brought into the pantheon of combined arms warfare, into the core

knowledge and responsibility of commanders and operators.[22]

Transformation and the IO Roadmap

In 2001, Defense Secretary Donald Rumsfeld and his staff came into government

intent on transforming the defense establishment. In IO, they saw the type of Information

Age thinking that the services needed, but presently lacked. Consequently, IO was made

a major focus of the 2001 Quadrennial Defense Review (QDR), which "identified

information operations as one of six operational goals for DoD transformation. It

required the Department to treat it [IO], along with intelligence and space assets, not

simply as an enabler of current forces but as a core competency of future forces."[23] As

directed by the QDR, Secretary Rumsfeld developed and published a detailed

development plan entitled the *IO Roadmap* in October 2003.

The IO Roadmap (IORM) put forth the idea that IO needed to become a "core

military competency on a par with air, ground, maritime and special operations."[24]

Secretary Rumsfeld and his staff clearly understood the transformational nature of IO,

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[22] This point is evidenced by the historical dearth of professional writing by warfighters on IO. See Ch. 1, note 7.
    [23] Christopher J. Lamb, "Information Operations as a Core Competency," *Joint Forces Quarterly*, Dec 2004, 89.
    [24] Department of Defense, *Information Operations Roadmap (Declassified Version),* (Washington D.C.: Department of Defense, October 30, 2003), 4.

likely much better than did the services. The IORM was personally supported by

Secretary Rumsfeld who backed the initiative with $380 million dollars in the 2004-2009

FYDP. While $380 million is not a hugely significant sum in defense expenditure terms,

it did represent a significant short term reprogramming that clearly signaled that this was

a priority means by which the Defense Secretary sought to transform the American way

of warfare. For Rumsfeld, "the emerging American way of war mean(t) fighting first for

information dominance."[25]

Though the IORM was an impressive piece of work, it employed a questionable

strategy. The intent was to gather together under a single rubric various information

centric capabilities. The theory was that doing so would "provide a center of mass" that

was missing and impeding the improvement of IO. Disunity contributed to a "lack of

common understanding among the services, combatant commands, and defense

agencies"[26] In other words, individually, the IO elements were weak and incapable of

transforming American warfighting culture, but together they would be strong. This

concept essentially treated IO like Special Operations Forces (SOF) – a unique specialty

housed within, but distinct from, the traditional services.

The IORM also sought to unify disparate service approaches to IO by providing a

common DoD IO framework consisting of:

- A directed definition of IO
- Three Broad IO functions
- Five integrated core IO capabilities[27]

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[25] Lamb, "Information Operations as a Core Competency," 88.
[26] Ibid., 90.
[27] DoD, *IO Roadmap*, 7-8.

Further, the IORM recommended the establishment of an "IO career force" made up of

"two categories: IO planners and IO capability specialists." Similar to SOF, the IORM

maintained that success would require "an IO career force…to break some cultural

norms. Isolated communities of personnel should begin to think of themselves as IO

personnel rather than personnel participating in a core component of IO."[28] The

emphasis was clearly on developing IO as a separate entity, rather than on integrating IO

back into plans and operations. The hope was that "IO planners" would perform that

function. IO planners would be quasi-specialists familiar with "the basic principals" of

CNO, PSYOP and EW and "capable of integrating their effects into Combatant

Commander plans or orders."[29] This tall order was believed to be feasible partly because

these officers would be drawn "from the more traditional warfighting career paths (e.g.

fighter pilots, combat arms officers, service (sic) warfare officers and planners across all

Services.)"[30] Unfortunately, this approach severely underestimated the pull of uniform

service culture and the manner in which planning is conducted in actual units.

Military planning on operational staffs is a fast paced process that is not just led,

but largely accomplished by a small core of operations and intelligence planners. While

there normally is a larger Joint Planning Group (JPG) that augments and supports the

process with specialist planners from all available staff disciplines, the application of

operational art, which takes place in the development of the basic concept of operations,

is generally dominated by operations planners working with, and using direct guidance

from, the commander. The reality of service culture is that once officers leave the

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[28] Ibid., 33.
[29] Ibid.
[30] Ibid.

command track they have less credibility and access to the commander. Therefore, their ability to influence the core of command decision making and operational art is severely diminished.

There should not be any question that transforming the U.S. military's core conception of operational art is clearly what Secretary Rumsfeld had in mind by empowering IO. The IORM specified a Joint IO concept that included "three integrated functions" to be executed during "peace, crisis and war." In other words, IO provided a comprehensive framework to be applied across the full range of military operations. The "integrated IO functions" are to:

- Deter, discourage, dissuade and direct an adversary, thereby disrupting his unity of command and purpose while preserving our own.

- Protect our plans and misdirect theirs, thereby allowing our forces to mass their effects to maximum advantage while the adversary expends his resources to little effect.

- Control adversarial communications and networks and protect ours, thereby crippling the enemy's ability to direct an organized defense while preserving effective command and control of our forces.[31]

One must note that these are not merely "functions." These are basic approaches -- or strategies -- for victory that run counter to the preferred strategy of annihilation which characterizes the American way of war. To be effective these methods must be integral to the commander's Concept of Operations, and, therefore, must be intrinsic to the commander's Operational Art.

In light of the internal and external perspectives of IO, the fundamental error of the IORM becomes clear. Though Secretary Rumsfeld and his staff were intent on transforming the fundamental American approach to warfare, they failed to target directly

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[31] Ibid., 8.

the core leadership culture of the various services – commanders and operators. Instead, they sought to carve out a separate community with a distinct culture within the services; a culture distinctly different from the American tradition. This approach has not proven strong enough to influence significantly the deeply seated American way of war. IO effectively came in below the noise level of most commanders; to them IO was just another supporting capability imbedded within their staff. However, to those within the IO community, the "integrated IO functions" specified in the IORM provide a mandate to employ a counter-cultural art. It is little wonder then, that IO staff sections frequently appear to commanders and operators to be parallel "staff stovepipe[s] with undefined and unresourced missions…that [do] not seem relevant to combat operations."[32]

So it has often been in the seven years since the publication of the IORM. The wars in Iraq and Afghanistan have refocused the services on counterinsurgency and irregular warfare, while the IORM, as a Rumsfeld era initiative, has been overcome by Secretary Gates's emphasis on winning the current fights. Though Joint Staff actions directed by the IORM continue, the spirit of the plan is undeniably jeopardized as each of the services pursues divergent courses with regard to IO.[33] To understand where IO is heading, we will briefly review the state of IO in each of the services and at the joint level today.

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[32] CALL, *Gap Analysis Report 08-31: Information Operations*, vii.
[33] DoD, *CJCSM 1630.01 Joint IO Force*, Washington D.C., 16 March 2009. This relatively new document published by the Joint Staff details the IO Career Force as directed in the IO Roadmap. The document identifies *IO Planners* and *IO Specialists* in each of the services in Commissioned Officer, Warrant Officer and Non-Commissioned Officer grades. As with all things Joint though, this document is more descriptive than prescriptive, as the services have each recently taken actions that conflict with this manual.

Service perspectives on IO

Army

Since the inception of IO, the Army and Joint concepts and definitions of IO have

been the most similar. Officers and enlisted personnel from all Army IO occupational

specialties routinely serve in Joint IO billets. The Army's official definition for IO is

virtually identical to the 2003 IORM definition:

> *Information operations* is the employment of the core capabilities of electronic
> warfare, computer network operations, psychological operations, military
> deception, and operations security, in concert with specified supporting and
> related capabilities, to affect or defend information and information systems, and
> to influence decisionmaking.[34]

However, in 2008 the Army made a conscious move away from IO with the publication

of a new capstone operations manual, *FM 3-0 Operations*. This document only refers to

IO as a Joint concept and in its place specifies that Army forces conduct five

"Information Tasks:" Information Engagement, Command and Control Warfare,

Information Protection, Operations Security and Military Deception. This

"deconstruction of IO" has been roundly criticized within the Army and remains the

source of much controversy.[35]

Taken more broadly though, the new Army concept actually increases the

emphasis placed on the role of information in warfare by recognizing that the entire

organization has an impact on the information environment. Accordingly, the new

doctrine attempts to move the responsibility for information centric operations out of a

single staff section. Elsewhere in the manual, the Army specifies Information as an

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[34] U.S. Army, *Field Manual 3-13 Information Operations* (Washington D.C.: Department of the Army, November 2003), iii.
[35] Colonel Randolph Rosin, "To Kill a Mockingbird: The Deconstruction of IO," *Small Wars Journal*, Aug 17, 2009. Provides a scorching criticism of the new Army doctrine.

Element of Combat Power on par with Leadership, Command and Control, Movement and Maneuver, Intelligence, Fires, Protection, and Sustainment.[36] While this change elevates the philosophical position of Information within the body of Army operational concepts, it calls into question the relevance of IO as a viable operations process. In order to sort this situation out, the Army Training and Doctrine Command (TRADOC) has temporarily placed the next edition of *FM 3-13*, the traditional IO manual, on hold.

A significant portion of the controversy over the new Army doctrine stems from the fact that the Army has been the most aggressive in creating a dedicated career force of IO officers. Functional Area 30 (FA30), Information Operations Officer, is a full time specialty that Army officers may branch into beginning at the rank of Major and remain through Colonel. These officers are the closest match in any of the services to the generalist IO Planners identified in the IORM. This career field has been growing for years and is only beginning to reach maturity. The doctrinal move by the Army away from the FA30 namesake no doubt has caused many in the Functional Area to question the Army's dedication their career field. Jurisdiction for the five new Information Tasks is not sufficiently clear for FA30's to understand their role in planning and execution.

The Army has dedicated significant numbers of personnel to the various elements of IO as well. The Army maintains the only Psychological Operations (PSYOP) career field in DoD, one upon which all the services rely. The PSYOP force structure is well established within Army Special Operations Command. It includes enlisted, warrant and commissioned officer specialists and commands at the company, battalion and group level. There has long been tension within the Army between the IO (FA30) community

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[36] U.S. Army, *Field Manual 3-0, Operations.* (Washington D.C.: Department of the Army, 14 June 2008), 4-1.

and the PSYOP community. The PSYOP branch has a long, proud history and some have perceived their influence and stature to be reduced with the creation of IO.[37] Traditional commanders and operators commonly conflate IO and PSYOP, prompting some within the IO community to suggest that the two specialties should merge.[38]

Dedicating even more manpower to IO specialties, the Army is now standing up an entirely new Electronic Warfare (EW) career field. Having relied heavily on the Navy for EW support in Iraq, this "new career field will eventually give the Army the largest electronic warfare manpower force of all the services….with nearly 1,600 EW personnel, serving at every level of command."[39]

Army IO Assessment: The Army is convinced that information plays an important role in modern warfare and is dedicating significant resources toward creating information centric capabilities. Nonetheless, the service is clearly conflicted concerning the concept of IO and is struggling to determine how to modify all their doctrine to best account for Information Age dynamics.

Navy

The Navy has strong traditions in EW and Cyber operations, but has not found significant utility in the overarching IO concept itself. In as much as IO deals with influencing the minds of adversaries, naval operations, which only infrequently directly engage enemy personnel and non-combatants, are not readily conducive to concepts involving cognitive effects. Nonetheless, the Navy did follow the Joint lead and

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[37] Boyd, "Army IO is PSYOP," 67-75.
[38] Fredric W. Rohm Jr., "Merging Information Operations and Psychological Operations," *Military Review*, Jan-Feb 2008, 108-111.
[39] Jamie Findlanter, "Army creates electronic warfare career field," http://www.army.mil/-news/2009/02/06/16536-army-creates-electronic-warfare-career-field/ (accessed February 21, 2010)

effectively implemented IO as a Navy discipline by re-designating its existing

Cryptologist career force as Information Warfare (IW) Officers. While these officers

have responsibility for a few tasks within a Strike Group that are related to Joint IO (such

as deceptive lighting schemes), they generally do not serve in IO positions in the Joint

community.[40] More commonly, the Navy has sent Naval Flight Officers, such as EA-6B

crewmen, to serve in Joint EW billets, leveraging the Navy's core strength of EW.[41]

In the realm of Cyber operations, the Navy has a fairly robust capacity in its

enlisted ranks that has grown out of a long standing relationship providing manpower to

the National Security Agency (NSA). Continuing in this tradition, the Navy stood up

Fleet Cyber Command in July 2009 as the Navy Component to the new Joint Cyber

Combatant Command.[42]

However, the Navy also took a decided step away from IO during 2009. ADM

Roughead, the Chief of Naval Operations, announced the establishment of the new

Information Dominance Corps whose designated purpose is to "deliver decision

superiority to Navy, Defense and National leadership."[43] To accomplish this task the

Navy is grouping together the disciplines of Information Technology, Information

Warfare, Intelligence, Oceanography, and Space. The Navy combined the Intelligence

and Communications functions on the Navy staff to form an "N2/N6," which is the

designated "leader of the Information Dominance Corps." The Navy's maintenance of an

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[40] U.S. Navy, *Naval Warfare Publication 3-13 Navy Information Operations* (Washington D. C.: Department of the Navy, October 2002), 5-1.

[41] Mary Morehouse-Crane "Key Leader Interview: Navy CDR Joe Shipley, 13th ESC, EWOS, Iraq" *Center for Army Lessons Learned,* August 2009, https://call2.army.mil/toc.aspx?document=5826&tag=58 (accessed January 7, 2010).

[42] U.S. Navy, Briefing: "Information Dominance," *Information Professional Community Training Symposium,* 25 January 2010.

[43] U.S. Navy, "The Information Dominance Corps," *OPNAV Instruction 5300.12.* (Washington D.C.: Department of the Navy, Oct 6, 2009).

IW career field and their recent standup of an "Information Dominance Corps" is an explicit commentary on how far removed the Navy is from contemporary Joint thinking on information related subjects. IW has not been a term in favor for at least a decade and was removed from Joint Doctrine in 2006. Information Dominance was an initial concept put forth in the early 1990s that never gained legitimacy and was quickly replaced by Information Superiority, which is still in use in Joint Doctrine.[44]

Navy IO Assessment: As with most things doctrinal, the Navy has never really bought into the concept of IO. The service maintains strong capability in the EW realm and appears to be building capacity in the Cyber realm. While the Navy is acknowledging the critical role that information plays in warfare, their actions clearly demonstrate that they are not committed to the Joint Doctrinal conception of IO.

Air Force

The Air Force has long maintained a firm doctrinal concept for IO despite the fact that their definition stands in sharp contrast to Joint Doctrine. Air Force doctrine states:

> Information operations (IO) are the integrated employment of the capabilities of influence operations, electronic warfare operations, and network warfare operations, in concert with specified integrated control enablers, to influence, disrupt, corrupt, or usurp adversarial human and automated decision making while protecting our own.[45]

Here the service defines two terms unique to Air Force doctrine: Influence Operations and Network Warfare. Beneath these concepts the Air Force mixes and matches the familiar IO elements found in Joint doctrine to create their own version of IO.

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[44] DoD, *JP 3-13 Information Operations*, I-1.
[45] U.S. Air Force, *Air Force Doctrine Document 2-5: Information Operations* (Washington D.C.: Department of the Air Force, 11 Jan 2005), 1.

In keeping with Air Force style, each of their three IO pillars -- Influence Operations, Electronic Warfare and Network Warfare – have assigned career fields.[46] The Air Force has deep expertise in Electronic Warfare with a variety of officer skill codes assigned to specific airframes. The Influence Operations pillar represents the most unique personnel solution. Because they do not have PSYOP or other associated soft science specialties, the Air Forces uses medical psychiatrists as their Influence Operations Directors.[47]

Network Warfare is fast being replaced by Cyber Operations in the Air Force. Given their long standing experience securing the nation's nuclear control networks, the Air Force has deep expertise in the Computer Network Defense and is quickly building upon that capability. They have established eleven new Cyber related enlisted skill codes and re-designated their communications officers under the new 170X Cyber Warfare Officer classification.[48]

Because air operations are centrally planned within a Combined Air Operations Center (CAOC), the "execution" of IO in the Air Force has really been about the identification and selection of non-traditional targets. This expertise has historically been resident in the Information Warfare Flights that augment each AOC. However, all the IW Flights have now been disbanded to provide manpower for other priorities. The 688th IO Wing, the proponent for Air Force IO, which originally oversaw all the IO Flights, has

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[46] Lieutenant Colonel Tracy Bobo, USAF IO Instructor, Joint Forces Staff College, e-mail message to author, March 29, 2010.

[47] To appreciate the scientific approach the Air Force takes toward Influence Operations see: U.S. Air Force, "Behavioral Influences Analysis Center." *U.S. Air Force Air University Portal.* Jan 4, 2010. http://www.au.af.mil/bia/ (accessed Mar 29, 2010).

[48] Maj Gen William T. Lord "Cyberspace Operations: Air Force Space Command Takes the Lead." *High Frontier*, May 2009, 3-5.

now been moved underneath the 24th Air Force, the Air Component to U.S. Cyber Command.[49]

Air Force IO Assessment: Similar to the Navy, the Air Force is maintaining its EW capability, while expanding aggressively in Cyber capacity. Having already stood up the 24th Air Force, restructured the 688th IO Wing, and established multiple new Cyber related skill codes, the Air Force is clearly demonstrating its commitment to establishing its dominance in Cyberspace with resources coming from IO.

Marine Corps

Until very recently, the Marine Corps had no IO capability. Ground units in Iraq and Afghanistan have routinely been augmented with tactical Army PSYOP teams and higher level Division and MEF staffs have been augmented by Army IO support teams. However, the Army has made it clear that it can no longer provide this support. The Marine Corps has just begun to develop an IO Career Force as an additional skill identifier and the Corps is standing up the Marine Corps IO Center (MCIOC) at Camp Pendleton to create a central pool of "IO trained" personnel that will augment deploying Marine Air-Ground Task Forces (MAGTFs) with IO capability.[50] The MCIOC is essentially modeled after the Army's 1st IO Command.

Marine Corps IO Assessment: Oddly enough, the Marines have just gotten on board with IO by following the old Army model. They have done so because the Army has told them it cannot supply them with PSYOP support any more. Appropriately,

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[49] Ibid.
[50] U.S. Marine Corps, "Information Operations Career Force and Space Cadre," www.marines.com, November 1, 2006 http://www.marines.mil/news/messages/Pages/2006/Messages06100.aspx (accessed Feb 21, 2010).

tactical PSYOP capability is really what the Marines are trying to create while calling it "IO."

Joint

Army Major George Brown repeats a common dictum when he writes, "IO are inherently joint and are planned, coordinated and approved at the strategic level."[51] Given the analysis of the services' current positions on IO, perhaps this is what each of the services wants to believe: IO is something someone else does! Indeed the Joint level has relatively enthusiastically embraced IO. There exists a substantial, consistently revised, series of Joint doctrinal IO Publications. IO represents one of seven objective learning areas for National Defense University students. There is an entire school with multiple, highly attended IO courses at the Joint Forces Staff College. Finally, all of the Geographic Combatant Commands (GCCs) have well staffed IO sections. However, what the IO sections actually do at the various GCCs varies widely depending upon conditions in their region and personalities within the command. In all of the GCCs, there is significant emphasis today on establishing regional influence web sites. These programs, which originated in EUCOM, are significant because they are the first DoD-level funded IO programs.

As for functional Joint commands, the 2004 Unified Command Plan designated U.S. Strategic Command (USSTRATCOM) as the Joint proponent for IO. However, understanding of USSTRATCOM's role in IO and relationship to the GCCs has been problematic. Perhaps most significantly, Secretary Gates in mid-2009 directed the

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[51]George Brown, "Do We Need FA30? Creating an Information Warfare Branch," *Military Review*, Jan-Feb 2005, 42.

establishment of U.S. Cyber Command as a new four star, Joint Combatant Command. As expected the services are quickly developing components to operate in support of the new command. The ramifications of U.S. Cyber Command for how the U.S. military organizes, equips, and operates will not be known for some time, but clearly there will be implications for IO since one of its major "core elements" is gaining independence.

Joint IO Assessment: The Guidance for the Employment of Forces (GEF) now requires the COCOMs to produce integrated Theater Campaign Plans that show how their Security Cooperation activities are shaping behaviors and actions in their region. The influence web site initiatives give IO a popular boost within the COCOMs because they pay their own way and provide a significant capability that the GCCs directly control. However, the influence web sites and the establishment of U.S. Cyber Command also raise the persistent question of exactly what IO is. Many will now come to know "IO" as a web-based influence capability. Should CNO still be a part of IO with Cyber emerging as an independent command and capability? While IO does appear to have its center of gravity at the Joint level, the question of how to define, organize and execute Joint IO persists.

IO Today

What are we to make of all the varying perspectives on IO? Army War College Professor of Information Operations, Dennis Murphy, recently wrote, "this stuff is confusing…and in some cases, self-defeating." [52] Professor Murphy suggests that the DoD take a "doctrinal pause" in order to "review current publications and consolidate

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[52] Murphy, "Talking the Talk," 1.

and simplify what is currently confusing, overlapping and disparate guidance."[53] Given

the diverse status of IO across the department today it would seem that the 2010 QDR

might have been timed perfectly to provide a solid course correction to IO.

Sadly, the recent publication of the 2010 QDR Report has proved otherwise.

While IO played prominently in the 2001 QDR, the current report makes only two

passing mentions of friendly IO capability. They are brief enough to be included in their

entirety. The first merely mentions that IO is critical to Strategic Communication:

> Effective strategic communication also requires the orchestration of multiple lines of operation. Chief among these are policy implementation, force employment, **information operations**, public affairs, civil affairs, and public diplomacy and engagement.[54]

The second, as part of the Chairman's assessment, adds nothing to our understanding of

IO apart from reinforcing, yet again, that it is critical:

> The QDR also recognized the need to expand our electronic warfare capabilities and enhance intelligence and **information operations** capabilities. These key capabilities, as well as new technologies being explored, support flexible and effective forces for today's fight and contribute to our readiness for operations across the full range of military operations.[55]

Clearly the prominence of IO in the national defense conscience has diminished

significantly since the 2001 QDR, which discussed IO seventeen times, and specified IO

as a DoD Core Competency.[56]

Many within the IO community feel that the 2003 IORM placed too much

emphasis on capabilities and became the proximate cause of the faulty external view of

IO that commanders hold today. To remedy this situation and move IO away from its

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[53] Ibid, 1-2.
[54] DoD, *Quadrennial Defense Review Report 2010* (Washington D.C.: Department of Defense, Feb 1, 2010), 25. Emphasis added.
[55] Ibid, 101. Emphasis added.
[56] DoD, *Quadrennial Defense Review Report* 2001 (Washington D.C.: Department of Defense, September 30, 2001), 43.

capabilities bias, the senior defense official responsible for IO, Mr. Austin Branch, has

proposed a new definition for IO which makes no mention of capabilities:

> The planning and integrated employment of capabilities in the information
> environment across the spectrum of military operations.[57]

Should this definition be approved, those inside the IO community may believe that they

are empowered to consider the full range of capabilities available to the joint force

commander in designing Information Operations. "IO planning" could conceivably

expand to include the employment of carrier battle groups or attack aviation. IO might

determine where logistics depots are placed so as to best coincide with local sentiments,

or determine taskings to tactical combat units. While such a construct may represent

exactly the type of thinking the United States military needs to be effective in the

Information Age, the DoD must be careful to consider who exactly they believe will feel

responsible to do this type of thinking by virtue of the changed IO definition. If the target

is those inside the IO community, who, by virtue of personnel policy and military culture

are stripped of influence, we will be repeating the mistakes of the IORM.

   With nearly two decades of history as our guide, the U.S. military should know

that a new IO definition will have little impact on the core American warfighting ethos.

As the next chapter will show, the roots of the American Way of War are deeply

embedded in our industrial heritage. Therefore, if the U.S. military wants to become

effective in Information Age warfare, it will have to address directly the transformation

of the distinctively American form of warfare that our history has produced.

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[57] John C. Koziol, "2009-2010 Quadrennial Defense Review (QDR) Redefinition of Information Operations (IO)," Office of the Under Secretary of Defense – Intelligence (USD-I) Memorandum, 8 Oct 2009.

Chapter 3

THE AMERICAN WAY OF WAR

The ultimate military purpose of war is the destruction of the enemy's armed forces and will to fight.[1]
—U.S. Army, 1993

The violent resolution of the crisis, the wish to annihilate the enemy's forces, is the first-born son of war.[2]
—Carl von Clausewitz

Russell Weigley's book *The American Way of War* has become a classic in

American military literature. Weigley's thesis, that Americans prefer a style of warfare

that seeks to annihilate enemy armed forces, though not without debate, has been broadly

supported and expanded since its publication in 1973. Dr. Antulio Echevarria of the U.S.

Army War College has built upon Weigley's thesis to highlight that the American

preoccupation with tactical principals such as mass and firepower, and an aversion to

political interference, amounts to more of an American way of *battle*, than to a way of

war. Echevarria writes,

> The American way of war tends to shy away from thinking about the complicated process of turning military triumphs, whether on the scale of major campaigns or small-unit actions, into strategic success. This tendency is symptomatic of a persistent bifurcation in American strategic thinking in which military professionals concentrate on winning battles and campaigns, while policymakers focus on the diplomatic struggles.[3]

The American military clearly does not "do" politics. This chapter will demonstrate that

the American military also does not do strategy particularly well. In what Clausewitz

(above) informs us is the natural response to war, U.S. military culture has historically

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[1] U.S. Army, *Field Manual 100-5 Operations,* (Washington D.C.: Department of the Army, 14 June 1993), 2-4.
[2] Carl von Clausewitz, *On War* (Princeton: Princeton University Press, 1976), 99.
[3] Antulio J.Echevarria II, "Toward an American Way of War," (Carlisle: U.S. Army Strategic Studies Institute, March 2004), vi.

been overly focused on fighting. IO stands in contrast. Based in the realm of ideas, IO is inherently concerned with both politics and strategy. Viewed within the context of history, current IO doctrine is the predictable product of an American military culture fixated on destruction and averse to higher level thought. This chapter traces the evolution of American military thought and identifies significant influences that led to the creation of IO doctrine.[4]

American Military Preference

Jomini

Perhaps no military theorist has had greater impact on the American military mindset than the eminent nineteenth century theorist Antoine-Henri de Jomini. Jomini was a Swiss military theorist who experienced war in the French armies of the Napoleonic era and later became a general in the Army of Russian Czar Nicholas I. He wrote numerous books, which he published for profit throughout his lifetime. Jomini lived a long life and continued to publish late into his years, which extended through the duration of the Industrial Revolution. Accordingly, Jomini became the most widely influential theorist of the nineteenth century on western military thinking and culture.

A clear representation of Jomini's influence is reflected in the U.S. military's continued emphasis on "principles of war." Principles that Jomini identified through

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[4] The contours of our present-day thought concerning the purpose of U.S. military operations have been most heavily influenced by the U.S. Army. Naval operations, in contrast, are of a more sustained nature and characteristically distinct from land warfare. This is to say the purpose and employment of a nation's navy is more consistent across the spectrum of conflict from peace to war. Our country has never seriously questioned the necessity of a Navy, indeed our Constitution effectively provides for a permanent Navy. Our national debate has been more about the Navy's size than its purpose. Subsequently, it is how the nation thinks about conflict on land that is most germane to our present difficulty with IO. The question of engaging directly with other populaces and the purpose and use of American military force therefore finds its seat in the U.S. Army. This chapter is accordingly Army-centric.

analysis of Frederick the Great's eighteenth century campaigns remain almost entirely intact in current doctrine and in themselves articulate the heart of the American way of battle: objective, mass, offensive spirit, economy of force, surprise, security and mobility. Changing of mobility to maneuver, and the addition of simplicity and unity of command, produces nine Principles of War that have been an enduring bedrock of American military doctrine up to present day.[5] Especially prevalent in the American way of war is the Jominian idea that wars should be fought by professional militaries without political interference. From examination of the Austrian campaigns of 1756, Jomini concluded that "Austrian military commanders…were frequently crippled by 'interference' from the 'Aulic Council,' whose strategic naivete and supreme political power had often led the house of Hapsburg to military disaster."[6] Such analysis sent a clear message to emerging professional militaries in Europe as well as the United States: "a government should choose its ablest military commander, then leave him free to wage war according to scientific principles."[7]

Denis Hart Mahan used Jomini's history of the Napoleonic Wars as a primary text at the U.S. Military Academy at West Point in the 1820's. Jomini's scientific approach to war appealed to Mahan, a professor of engineering, and thus Jomini's theory became the principal formative influence on the American officer corps throughout the nineteenth century.[8] As a result of Mahan's influence, West Point produced a generation of officers

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[5] Department of Defense, *Joint Publication 3-0: Operations* (Washington D.C.: Chairman of the Joint Chiefs, 2008), II-1 and App A.
    [6] John Shy, "Jomini" in *Makers of Modern Strategy,* ed. Peter Paret (Princeton: Princeton University Press, 1986), 161.
    [7] Ibid.
    [8] Dale O. Smith, *U.S. Military Doctrine* (New York: Duell, Sloan and Pearce, 1955), 55. D.H. Mahan was the father of the more well know naval theorist Alfred Thayer Mahan. "Perhaps no other individual has exercised such widespread and lasting influence on American military though as Denis Hart

who would soon face one another in battle and through their actions attempt to prove

Jomini as "the ablest of military writers."[9] Virtually every senior commander on both

sides of the Civil War was a West Point graduate steeped in the belief that overwhelming

the enemy with masses of men was the only effective means by which to win not just

battles, but wars. [10]

Upton

Following the Civil War, as the standing military fell into decline, by far the

"single figure most influential" in shaping the American military mind was Colonel

Emory Upton.[11] Long periods of isolation away from civilian society on the newly

opened western frontiers provided an environment for a post-Civil War professional

awakening and Upton supplied the officer corps with appealing intellectual grist.

Commanding General of the U.S. Army, William T. Sherman sent Upton on a world tour

in 1875-1876 to study the professional armies of Europe and Asia. Upton returned

enamored with the Prussian military system and spent the remaining five years of his life

institutionalizing a series of reforms that became the basis of our modern professional

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Mahan, and yet he is almost unknown in American military annals."

[9] Maj Gen George B. McClellan, 1869, quoted in Brig. Gen Raymond E. Bell Jr.,"The Validity of the Principals of War," *Army*, Feb 2007, 20. McClellan's praise, representative of the era, continues: Jomini was "the first author in any age who gathered from the campaigns of the greatest generals the true principals of war, and expressed them in clear and intelligible language."

[10] General Donn A. Starry, "A Perspective on American Military Thought," *Military Review*, July 1989, 2-11. The former Army TRADOC Commander concisely relates the relationship between mass formations political form, "In conscript armies, [Napoleon's] Grand Armee and its successors across the world in time, there is always a tendency to look on manpower as a virtually free resource, one that, if provided in sufficient numbers and properly supplied, is the surest way to win. It is an idea that has dominated U.S. military thought, at least until the advent of nuclear weapons, but which yet dies hard."

[11] Russell F. Weigley, *Towards an American Army* (Columbia University Press: New York, 1962), 101.

military education (PME) system: a general staff system, professional staff colleges, professional journals and a mass mobilization system.[12]

Most importantly, Upton, as a disciple of Jomini, was a firm believer that there should be a distinct separation between civilians and the military. He believed that "excessive civilian control was a fundamental flaw, since most congressmen, presidents, and secretaries of war were inexperienced in military matters."[13] By the end of the nineteenth century, Upton's treatise *The Military Policy of the United States* had firmly ingrained into the American military mind the notion that military operations are most effectively conducted in isolation from political interference. Ultimately, Upton's "standing in service [was] high enough, his research and writing persuasive enough, and the mood of officers doomed to a lifetime as lieutenants and captains gloomy enough that he helped instill a distrust of democracy and of the American principle of civilian control of the military in a generation of professional soldiers."[14]

It was this same generation that became exposed to the theories of Carl von Clausewitz. Upton's legacy became the perpetual misinterpretation of "Clausewitz through Jominian filters. This interpretation…reflected both the Jominian separation of military affairs from politics and Clausewitz's precept that all wars tend to move toward the absolute."[15] Despite the fact that confronting the complexity of civil-military affairs

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[12] Allan R. Millett & Peter Maslowski, *For the Common Defense: A Military History of the United States of America* (New York: The Free Press, 1994), 272. Virtually all these reforms should be attributed to Sherman as well. It is difficult to separate the influence of these two conjoined reformers. Sherman served as Commanding General of the Army for 14 years (1869-1883) and he endorsed most of Upton's writing which "dominated Army thought well into the twentieth century." Apparently suffering from a brain tumor, Upton committed suicide in 1881.

[13] Ibid.

[14] Russell F. Weigley, *The American Way of War* (New York: Indiana University Press, 1973), 168.

[15] Robert M. Cassidy, "Prophets of Praetorians? The Uptonian Paradox and the Powell Corollary,"

is a central theme in Clausewitz's *On War,* generations of American soldiers, standing on

Upton's intellectual foundation, have "managed to read…Clausewitz in ways that twist

his meaning back into the comfortable Jominian formula."[16]

The World Wars

The Spanish American War of 1898 demonstrated that American logistical

systems were inadequate to deploy and support forces outside the continental United

States. [17] Though the Industrial Revolution had come to America, along with waves of

European immigrants, the nation had not yet thoroughly applied the management

concepts of mass production to war.[18] This would change in short order. President

Woodrow Wilson's decision to enter World War I (WWI) in 1917 found the U.S. Army

completely unprepared to fight. Nonetheless, the growing nation mobilized for war in

remarkably short order. In the eyes of former Army Training and Doctrine Commander,

General Donn Starry,

> The mobilization system was a direct result of industrial revolution thinking.
> Training factories turned out thousands of at least partially trained soldiers, while
> aircraft, tank, truck, cannon and other factories similarly produced volumes of
> essential commodities of war. Along the great production line, people and
> equipment were married up and together went off to war. It was the military
> equivalent of Henry Ford's River Rouge, the total and complete factory.[19]

The U.S. Army went from just over 100,000 troops at home in the U.S. in early 1917 to

318,000 on the ground in France by March 1918 and 1,300,000 by August 1918.[20] In

little more than a year, the U.S. managed to turn out 3 field Armies, 10 Corps and 43

Parameters, Autumn 2003, 132.
[16] Shy, "Jomini," 161.
[17] Starry, "A Perspective on American Military Thought," 5.
[18] Millett and Maslowski, *For the Common Defense,* 284-292, 319.
[19] Starry, "A Perspective on American Military Thought," 6.
[20] Keegan, John, *The First World War* (New York: Alfred A. Knopf, 1999), 372.

Divisions.[21] Ultimately, the United States put 4.8 million men in uniform.[22]

Industrialization and mass mobilization together expanded the Jominian principle of mass

from meaning masses of men to meaning also masses of materiel and firepower.[23]

Heavy, indirect artillery was new to the American military experience, but fit in

seamlessly to the American way of war. Preparation to mass men now meant first

massing artillery fire. In the end, American soldiers who served in WWI "knew they had

participated in a critical turning point in their nation's military history. They had gone to

Europe, and they had fought a mass, industrialized war with allies against a modern army

noted for its expertise."[24] Moreoever, they had won decisively and come home quickly.

Thus, WWI served to strengthen and deepen the American understanding of mass,

reinforce a preference for overwhelming firepower, and introduce the notion that wars

should be quick and decisive.[25]

Slowed as it was by the Great Depression, U.S. relative economic and

technological might continued to grow in the interwar period. It became clear that the

U.S. was emerging as a global power and the American military mindset grew

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[21] Willis J. Abbott, *The United States Army in the Great War* (New York: Doubleday, Page & Company, 1919), 24-29.
[22] Millett and Maslowski, *For the Common Defense,* 352.
[23] Ibid., 354. It should be noted that American industry failed to live up to its own expectations in supporting the war, especially in regards to ordnance and aviation. "American soldiers in France used more [British] Enfield rifles than [American] Springfields, more French automatic weapons than new Browning automatic rifles and machine guns, more French 75-mm field guns than American 3-inch cannon…and Army aviators flew to glory in French and British aircraft."
[24] Ibid., 376.
[25] Keith D. Dickson, "The Role of Collective Memory in Shaping the U.S. Army's Conduct of War from 1919 to 1953," Unpublished paper, 1-2. American participation in the Meuse-Argonne Campaign particularly served to solidify the idea of mass and firepower. After entering late into the war, with the Germans near exhaustion internally, America poured 22 oversized Divisions into American Expeditionary Forces (AEF) portion of the line. That American Divisions were twice the size of French, British and German Divisions is itself a commentary on the American preference for mass. Dr. Keith Dickson of the National Defense University writes, "The modern American Army emerged from World War I. The battle of the Meuse-Argonne represents the core of the inherited social memory of war within the Unites States Army. This battle served to define what the Army is, its heroes, and how it operates in combat."

accordingly. As a result of mechanization, the ideals of mass and firepower forged in

WWI found new form in airplanes, aircraft carriers, amphibious landing craft, tanks,

armored personnel carriers, artillery pieces, anti-aircraft artillery, and a seemingly endless

stream of trucks "leant" to the Soviets as our entire nation mobilized to fight through

World War II (WWII).[26] To man this "Arsenal of Democracy," America put men and a

few women into uniform in numbers that exceeded anything the nation had seen prior or

since; ultimately, more than 11.7 million Americans served in all the services.[27]

The American penchant for innovation and technology was applied to the

battlefield in every manner possible. Supporting and enabling all the equipment

previously mentioned were numerous electronic means such as radar, radio and field

telephone communications, and electronic warfare. The computer was originally

implemented in WWI to assist with the direction of artillery, but it found its first decisive

application by breaking German and Japanese encryption schemes in WWII. Finally, the

war itself was concluded by perhaps the greatest technological research and development

program ever undertaken: the Oppenheimer program to develop the atomic bomb.

American's deep seated faith in science and love affair with technology henceforth would

manifest itself as a permanent feature in the American way of war.[28]

Finally, WWII encapsulates perhaps better than any previous war the American

aversion for strategy and the preference to get on with the fight! Weigley highlights that

the American military "from the beginning of [its] participation in the European

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[26] Millett and Maslowski, *For the Common Defense,* 432. Between 1940-1945, America produced 86,000 Tanks, 120,000 Artillery pieces, 14 million Shoulder weapons, 2.4 million Trucks and jeeps, 1,200 Combat vessels, 82,000 Landing craft and ships, 96,000 Bombers, 88,000 Fighters, 23,000 Transports.
[27] Weigley, *The American Way of War*, 317.
[28] Millett and Maslowski, *For the Common Defense* , 433-434.

war…pressed for a cross-channel invasion of northern France at the earliest possible date."[29] American strategists showed little interested in British "indirect" concepts, consistently championing the pursuit of decisive battle on the European continent. Though compromise would ultimately characterize allied strategy, American distaste for complex and prolonged plans was clearly displayed throughout the war.

America emerged from WWII with a favored concept of warfare solidified within the military, shared across the breadth of society and validated, if only subliminally, in every American mind. This American military culture, or "way of war," forged through our history, solidified in the World Wars and persisting to this day, clearly demonstrates a style of warfare that is:[30]

- Apolitical and Astrategic
- Large scale
- Focused on firepower
- Technology dependent
- Aggressive, offensive
- Profoundly regular
- Culturally challenged

Strains of Napoleonic warfare are readily evident in this list, as witnessed by the strong correlation to Jomini's principles of war. Likewise, Upton's desire to maintain strict political independence is present. Notably absent is significant influence from Clausewitz.

The Cold War and Clausewitz

It is remarkable how different the mindset is in the American military today as compared to the post-WWII era. The notion of strategy as we hold it today was not

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[29] Weigley, *The American Way of War*, 318.
[30] Colin S. Gray, *Irregular Enemies and the Essence of Strategy: Can the American Way of War Adapt?* (Carlisle: Strategic Studies Institute, March 2006): 30. These features are adapted from Gray's list.

prevalent in the mind of the average military officer in the middle of the twentieth

century.   Today, military professionals generally subscribe to the Clausewitzian notion

that strategy is the sequencing and use of tactical actions for the accomplishment of war

aims; a "vertical" understanding of strategy.[31]   However, even following American

engagement in the Korean War, a more "horizontal" connotation of strategy still persisted

within American military culture. Inherited from our European forefathers, the type of

strategy generals were concerned with consisted of actions in preparation for combat.

Weigley suggests that American attitudes toward tactics and strategy in 1953 were well

characterized by the comments of British Field Marshall Earl Wavell:

> Liddell Hart…seems to imply that, with the increase in the size of armies and of
> the battlefield, strategy has gained importance at the expense of tactics. I cannot
> agree. I hold that tactics, the art of handling troops on the battlefield, is and
> always will be a more difficult and more important part of the general's task than
> strategy, the art of bringing forces to the battlefield in a favorable position.[32]

Such a view does not consider the purpose for which the war is being waged and reduces

the distinction between strategy and tactics as "merely one between the management of

forces before or during the battle, and helped convey the impression that strategy was a

matter of little consequence deserving little of the soldier's professional study."[33]

The rise of the Soviet Union as a strategic competitor and of nuclear weapons as

the ultimate manifestation of that competition, helped bring Clausewitz into more broad

popularity within the U.S. defense establishment. Nuclear weapons presented a

capability with unquestioned strategic impact. A rising generation of American strategic

thinkers who turned to Clausewitz for help in developing a suitable nuclear framework

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[31] Clausewitz, *On War*, 128. Clausewitz defines strategy as "the use of engagements for the object of the war."

[32] Earl Wavell, *Soldiers and Soldiering: Epithets of War* (London: Alden Press, 1953), 46-47.

[33] Weigley, *The American Way of War*, xviii.

finally gave *On War* an honest reading.[34] Though *On War* had been translated into

English in 1873, the book was not published in the United States until 1943.[35]

Throughout this period the scant reading that *On War* did receive in America was heavily

colored by Uptonian and Jominian interpretations, which emphasized Clausewitz's

definition of war as "an act of force to compel our enemy to do our will." [36] This view

misses Clausewitz's central message, which stresses the political nature of war.

    On War is a particularly unapproachable work written using the obtuse point-

counter-point style of the Hegelian philosophical dialectic. Clausewitz himself described

the entire work (with the exception of Book I, Chap 1) as "an unfinished mass."[37] These

elements combine to make *On War* a work requiring not just reading, but multiple

readings and, in fact, serious study to gain a worthwhile understanding. Inculcating such

a work into the core of an American military culture that has long maintained an anti-

intellectual bias and favored action over thought has persistently proven difficult.[38] As

Liddell Hart put it:

> The ill-effects of Clausewitz's teaching arose largely from his disciples' too
> shallow and too extreme interpretation of it, overlooking his qualifying clauses,
> but he lent himself to such misinterpretation by expounding his theory in a way
> too abstract and involved for concrete-minded soldiers to follow the course of his
> argument, which often turned back from the direction which it seemed to be
> taking. Impressed but bemused, they clutched at his vivid leading phrases and

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[34] Bernard Brodie, "The Continuing Relevance of On War" in Clausewitz, *On War*, 51. The eminent nuclear theorist comments specifically on Clausewtiz's relevance to nuclear war in his introductory essay.

[35] Karl von Clausewitz, *On War*. Translated by O. J. Matthijs Jolles (New York: Random House, 1943).

[36] Robert M. Cassidy, "Prophets or Praetorians? The Uptonian Paradox and the Powell Corollary," *Parameters*, Aug 2003, 130-143.

[37] Clausewitz, *On War*, 69.

[38] Lloyd J. Matthews, "Anti-Intellectualism and the Army Profession" in *The Future of the Army Profession, 2nd Edition*, (Boston: McGraw-Hill, 2005), 61.

missed the underlying trend of his thought – which did not differ so much from Sun Tzu's conclusions as it appeared to do on the surface.[39]

Clausewitz's influence on American military culture may be described as *incomplete*. The name "Clausewitz" in contemporary military culture is a signal that the speaker is making a serious point, but a point which the majority of those in attendance may be assumed not to have patience for. As one Leavenworth history professor put it, "We have an Army that speaks Clausewitz, but acts Jominian."[40] The 2001 version of FM 3-0 perhaps exemplified this best by highlighting in large print a quote from Clausewitz on a page, most ironically, illustrating Jominian Principles of War.[41] Army Major Robert Cassidy highlights the influence of Emory Upton toward creating this dominating mindset by calling it an "Uptonian paradox." Cassidy's insight explains that while "the U.S. Army has embraced Clausewitz as the quintessential oracle of war,…it has also tended to distance itself from Clausewitz's overarching theme – the linkage of the military instrument to political purposes."[42] This dichotomy has been a profoundly enduring theme of the American way of war.

Throughout the Cold War, Clausewitz was increasingly recognized as a preeminent military theorist, but his ideas were widely misinterpreted and inconsistently applied. Even the American failure in Vietnam did not significantly impact the American conception of war proper except, ironically, to reinforce the WWII notions of mass, mobility and firepower.[43] COL Harry Summers's broadly influential analysis of the

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[39] B.H. Liddell Hart, *Defence of the West* (London: Cassell and Company LTD, 1950), 293.
[40] Comment by Dr. Michael Perlman written in the margin of a paper submitted by the author at the U.S. Army Command and General Staff College, 2000.
[41] U.S. Army, *Field Manual 3-0 Operations* (Washington D.C.: Department of the Army, 14 June 2001), 4-35.
[42] Cassidy, "Prophets or Praetorians?" 130.
[43] Brian M. Jenkins, *The Unchangeable War* (Santa Monica: Rand, 1970), 3.

Vietnam War used Clausewitz's theory to conclude that the U.S. Army failed to win in Vietnam because it did not fight the war in a sufficiently conventional manner.[44]

Information Age War

The Soviet Union produced the first existential crisis for the American way of war. The fact that the USSR was an enemy that the U.S. literally could not out mass in men or materiel provided true impetus for the U.S. military to rethink its warfighting doctrine. Recognizing that defeat of the Soviet horde in central Europe with overwhelming mass and firepower was impossible, America borrowed from the Russians the concept of Operational Art. Envisioning an echelon of war in between the strategic and tactical realms, large-scale campaigns would be conducted to defeat the waves of Soviet forces simultaneously. This concept would necessitate the close synchronization of airpower with ground forces and thus, the doctrine of "Airland Battle" was born. General Donn Starry, one of the principal architects of the Airland Battle concept, near his retirement in the summer of 1989 believed it to be "highly unlikely that we (would) ever again prevail by mass force of arms alone."[45] In the place of mass formations, Starry advocated the use of tactical nuclear weapons. His thinking therefore remains consistent with the stream of American military preference in that he still favored decisive defeat of the enemy through massed *effects*, firepower, maneuver and offensive audacity. Starry's real innovation was adding the dimensions of depth and simultaneity to the battlespace.

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[44] Harry G. Summers, *On Victory* (Novato: Presidio Press, 1982), 1-7.
[45] Starry, "A Perspective on American Military Thought," 10.

In stark contrast, noted historian Victor Davis Hanson came to the conclusion in

that same year (1989) that the entire basis of the American way of war was in question:

> The heavy infantry, the tactics of direct assault, and the very firepower of
> American and European armies, which once captured the public imagination as
> somehow "heroic," have proven embarrassingly ineffective in the postcolonial
> conflicts and terrorist outbreaks of the era since the Second World War, as the
> men of the West have become bogged down in the jungles and the mountainous
> terrains of Africa, Latin America, and Southeast Asia.[46]

Hanson's analysis has since proven remarkably accurate, though, sadly, it has had little

impact on the American pursuit of decisive battle. Just after Hanson made his statement,

history would lead the U.S. military into a decade long intellectual pause that would

prevent the U.S. from appreciating Hanson's prescience.

Less than half a year after General Starry's retirement, the Soviet Union imploded

and with it the raison d'être for the U.S. military in Europe. In a seemingly readymade

scenario, Saddam Hussein invaded Kuwait and provided impetus for the U.S. to protect

its oil interests in the Middle East. Heavy ground forces from Europe were directed to

Saudi Arabia, where Airland Battle doctrine would finally be put to the test in a full

sized, American style conventional campaign. Flat desert conditions proved far superior

to those in central Europe and the state of the art "big five" weapon systems procured to

enable Airland Battle performed beyond expectation to defeat the Iraqi forces swiftly.[47]

Desert Storm validated the American way of war in supreme style before the watchful

gaze of burgeoning global media. The American public welcomed its victorious military

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[46] Victor Davis Hanson, The Western Way of War, (Berkeley: University of California Press, 1989), 11.

[47] Frank N. Schubert and Theresa L. Kraus, eds. *The Whirlwind War* (Washington D.C.: Center for Military History, 1991), 28. The "big five" systems included: M1 Abrams tank, M2 Bradly infantry fighting vehicle, AH-64A Apache attack helicopter, UH-60A Blackhawk utility helicopter and the Patriot air defense missile system.

home, experiencing a national catharsis from our loss in Vietnam, and all critical thought

ceased in the U.S. Army. Unable to see any lessons in the war other than the validation

of mass, maneuver, and firepower, the U.S. military sallied forth to "digitize" its

conventional forces. The American military's basic assumptions about force-on-force

conflict remained unchanged, despite the fact that nowhere on the globe (except Korea

perhaps) did any such threat exist. Instead the American military chose to believe that a

conventional force would "surprise" us.

With little surprise, the U.S. gave the Iraqi military a second chance at defeat in

2003 following the terrorist attacks of 11 September 2001. Operation Iraqi Freedom

(OIF) was an Airland Battle operation *par excellence*. The U.S. Air Force and Navy had

been on near permanent station in the Persian Gulf, essentially rehearsing for another war

since 1991. The services had become more tightly integrated through a decade of

emphasis on Joint doctrine, training and education. Perhaps most importantly, the force

had been embedded with communications and information processing capacity enabling

superior knowledge of the enemy, greatly improved situational awareness, and

unmatched ability to strike targets with precision. While OIF was Desert Storm on

steroids, this time there would be no speedy redeployment. Having effected "regime

change," America took on the responsibility of occupying Iraq, rebuilding the country,

and establishing a new government.

U.S. forces are now approaching a decade of fighting in irregular conflicts in Iraq

and Afghanistan wherein the American way of war has proven to be decidedly

ineffective. We have been forced to rediscover forgotten skill sets and to refit our forces

in the midst of combat.[48] As we find ourselves "embarrassingly

ineffective…and…bogged down in the…mountainous terrains of…Asia," Victor Davis

Hanson's prescient words from two decades should hang heavy on our conscience.

Upton's Legacy: IO

Having traced U.S. military experience and the roots of the American military

mindset, the rationale behind the U.S. military decision to create IO begins to emerge.

Information played such an indisputable role across the entire range of operations

throughout the 1990 Gulf War that the U.S. military was forced to grapple with the

subject. However, finding an acceptable method to integrate an intangible idea like

information into decidedly conventional warfighting art based on principles of maneuver,

mass, firepower and simplicity, proved too difficult. In the early 1990's, the dominant

American military paradigm was simply incapable of appreciating how something as

abstract as information could be employed to affect the outcome of combat in a material

manner. Moreover, the U.S. military's aversion toward the complexities of strategy and

its deep-seated desire to maintain a separation from politics prevented the most important

aspects of information from receiving appropriate consideration.

Therefore, rather than integrating information directly into core operations

concepts, doctrine writers developed a separate conceptual space for IO, leaving

traditional military concepts, and the jurisdiction of operators, undisturbed. IO would

encompass those non-lethal specialties that were (apparently) necessary for modern

warfare, but too unconventional and distant from the preferred warfighting style to

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[48] Max Boot, *Savage Wars of Peace: Small Wars and the Rise of American Power* (New York: Basic Books, 2002), xvi.

capture the attention of the center of American warfighting culture.[49] To develop this

point, it is worth examining four features of the American way of war with the most

salience toward the development of IO.

Apolitical and Astrategic. Despite the oft-quoted dictum that the purpose of war

is to create a better peace, the American tendency is to wage war with the express

purpose of *winning*, without significant appreciation for the character of the peace that

will follow. Similarly, American officers, in the legacy of Emory Upton, distinctively

prefer to be left to accomplish their military objectives without political interference.[50]

The only strategy in American warfare is destruction of the enemy forces. The military's

job is make this happen, not to distinguish how such destruction relates to, or

accomplishes any political objectives. This decidedly a-rational preference stands in

direct contrast with IO which is inherently strategic. IO is about communication and

perception. As such its power lies in appeal to mental (vice physical) faculties: emotion

and logic. Strategy is logic.

Culturally challenged. American ideology has long held that America holds a

unique place in the world. As such we have not been an especially culturally sensitive

people in general, let alone in our warfighting style. Our tendency is to dehumanize our

opponents, rather than attempt to understand them. But, astute strategist Colin Gray

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[49] The U.S. Army, long the leading service in IO concepts, published F*M 100-6 Information Operations* in 1996 as a separate companion to the new *FM 100-5 Operations* published 1993. Joint doctrine followed suit with its first IO manual in the 1998 *Joint Publication 3-13, Information Operations*. Army doctrine has since fallen in line with the Joint system; *FM 100-5* has become *FM 3-0*, and *FM 100-6* has become *FM 3-13*. In all cases the organizational and numbering connotation is clear: IO is a distinct and subordinate part of warfighting art.

[50] Eliot A. Cohen, *Supreme Command* (New York: Anchor Books, 2002), 242. Samuel P. Huntington's 1957 theory of "objective control," which envisions a military "sphere of action independent of politics," has been taught to generations of officers at West Point. Eliot Cohen writes that Huntington's theory is now "commonly viewed as the "normal" theory of civil-military relations – the accepted theoretical standard by which the current reality is to be judged."

points out that "this lack of cultural empathy, including a lack of sufficiently critical self-knowledge, is most serious. There is no mode of warfare, conducted in any geographical environment, wherein the enemy's strategic culture is of no importance."[51] Perhaps no other characteristic has greater implications for IO, which is commonly expected to be a capability that brings cultural insight to an otherwise culturally insensitive commander.

Focused on firepower. In keeping with American industrial capacity, the U.S. has long showed a preference to send projectiles into harm's way rather than flesh. This logical tendency unfortunately produces a "targeting" mentality, an "attitude that what we do in war is service targets. Instead of being considered in his cultural context, the enemy is reduced to the dehumanized status of the object of U.S. firepower."[52] This mindset actually carries directly over to IO today. For those newly initiated into the IO world, the most popular mental construct in which to fit IO is the idea of "non-lethal fires." Indeed there is an entire sub-group within the IO community that maintains that the best way to "do IO" is by applying the Detect, Decide, Deliver, Assess (D3A) targeting methodology, which has proven effective for delivering artillery and Joint fires. In fact, with the publication of the recent edition of FM 3-0, non-lethal fires have now become an official Core Competency for the U.S. Army Artillery Corps.[53]

Technology dependent. Leveraging machinery is always preferred in American warfare. Born of the enlightenment and with a history directly paralleling the Industrial Revolution, Americans have great faith in science and a long standing love affair with technology. Two of our three military departments (Navy and Air Force) owe their entire

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[51] Gray, *Irregular Enemies and the Essence of Strategy,* 34.
[52] Ibid., 37.
[53] Frank J. Siltman and John P. Frisbie, "Fire Support just got harder: adding nonlethal fires as a core competency," *Fires* (July 1, 2008): 6.

existence to the service of technology; the third (Army) while based on human beings, hauls more technological luggage per soldier with it to war than any other Army in history.[54] One can view the evolution of American military thought as the continuing struggle to contend with the influence of technology on the character of warfare. A principal struggle for the American warfighting mindset is the realization that IO does *not* represent a new suite of supporting technological capabilities, but rather is about a critical adjustment in tactics and operational art necessitated by the contemporary operating environment. IO is necessary because of information technology, but it is not *about* technology.

This analysis highlights the distinct divide between IO and the American way of war – in many ways IO represents the antithesis of American warfighting preference. As such its establishment was the logical reaction of a U.S. military culture that prefers not to grapple with complex cognitive issues. Accordingly, getting "good at IO" will require a significant shift in U.S. military culture and the intentional destruction of our Uptonian paradox.[55]

Clausewitz – Fixing IO

There are two critical intellectual hurdles that the American military must clear in order to in overcome its presently bifurcated conception of military operations and excel

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[54] At the height of the Vietnam war the U.S. Army required more than 470,000 logistical troops to support only 80,000 fighting soldiers. Colin Gray actually goes so far as to identify "Logistical excellence" as another characteristic of the American Way of War. Gray, 46.

[55] U.S. Army. *DA Pam 600-3 Commissioned Officer Professional Development and Career Management* (Washington D.C.: Department of the Army, 2010), 192, 263. The Army has long maintained "Functional Areas" to maintain low density skill sets that are helpful, but not a core competency of the force. In the late 1990s, the Army created Functional Area 30 (FA30) for Information Operations and similarly FA59, Strategic Plans and Policy. Both FA's indicate a preference to "outsource" from the Combat Arms functions that are arguably inherent skills for commanders as artists of war.

in Information Age warfare. First, we must acknowledge the political nature of war.

Second, we must recognize the political nature of IO. Both challenges require an

accurate appreciation of Clausewitz.

War is Political – Clausewitz's Trinity.

Our Jominian-Uptonian conceptions of distinct military and political spheres may

have been feasible in a disconnected world, but, as we shall see in the next chapter, they

are unrealistic in the Information Age. Clausewitz is the best theorist upon which to base

a lasting national military philosophy, for his "originality as a theorist…derive[s]

from…his insistence that politics permeates all levels of military action."[56] That early

American readings of *On War* failed to appreciate the centrality that politics played in his

theory is our failing, not the author's. In his preface note of 10 July 1827, Clausewitz

provides crystal clear guidance for how one should read his unfinished work:

> But no less practical is the importance of another point that must be made
> absolutely clear, namely that war is nothing but the continuation of policy with
> other means. If this is firmly kept in mind throughout it will greatly facilitate the
> study of the subject and the whole will be easier to analyze.[57]

Perhaps the most ironic commentary concerning our inability to interpret

Clausewitz was foretold by Clausewitz himself on the opening page of *On War*. In the

second paragraph he famously defines war as "an act of force to compel our enemy to do

our will." Content with this definition, many readers evidently skip the next paragraph

and proceed with tackling the remaining six hundred pages of the work. To our

collective loss these readers miss one of Clausewitz's most compelling insights, for here

he introduces the idea that war has dual nature manifest in the dual ends that it seeks to

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[56] Daniel Moran, "Strategic Theory and the History of War" *Clausewitz.com.* 2001.
http://www.clausewitz.com/readings/Moran-StrategicTheory.pdf (accessed Feb 02, 2010).
[57] Clausewitz, *On War*, 69

achieve. First, war has a political *object* which is "to impose our will on the enemy. To secure that object we must render the enemy powerless; and that, in theory, is the true aim of warfare." This *aim* represents the task for the military. Thus, war has both a *political object* and a *military aim*. Penning perhaps his most brilliant insight into the escalatory nature of war, Clausewitz describes what naturally happens as policy is translated into military action: the military "aim takes the place of the object, discarding it as something not actually part of war itself."[58] Clausewitz understood that war has a way of taking on a life its own, and that militaries, as objects of war, similarly have a tendency to see their own goals as ends in and of themselves. Clausewitz essentially predicted the myopic reading that his work would receive from Upton and other American officers too focused on the execution of their task to be concerned with the broader purpose of war.

Clausewitz lived in a time of dramatic change as political shocks from the French Revolution upended the balance of power in Europe. Clausewitz's genius lay in his ability to see through the chaos of his age to discern the timeless nature of war as a relationship between passion, chance, and restraint. This "remarkable trinity"[59] takes only a minute to read, but a lifetime to appreciate:

> War is more than a true chameleon…As a total phenomenon its dominant tendencies always make war a paradoxical trinity – composed of primordial violence, hatred and enmity, which are to be regarded as a blind natural force; of the play of chance and probability within which the creative spirit is free to roam; and of its element of subordination, as an instrument of policy, which makes it subject to reason alone. These first three aspects mainly concern the people; the second the commander and his army; the third the government.

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[58] Ibid., 75.
[59] Antulio J. Echevarria II, *Globalization and the Nature of War,* (Carlisle: U.S. Army Strategic Studies Institute, 2003), 28. Echevarria translates the original German word "wunderliche" as "wondrous." It is translated as "remarkable" in the original Howard and Paret translation (1976), and "wonderful" by Anatol Rapaport (1908).

These three tendencies are like three different codes of law, deep-rooted in their subject and yet variable in their relationship to one another. A theory that ignores any one of them or seeks to fix an arbitrary relationship between them would conflict with reality to such an extent that for this reason alone it would be totally useless.

Our task therefore is to develop a theory that maintains a balance between these three tendencies, like an object suspended between three magnets.[60]

What Clausewitz describes in his trinity is the relationship of factors at play in any one belligerent's decision to wage war. Therefore, in a Clausewitzian war there are at least two trinities in competition. While Clausewitz wrote primarily based on his experience in nation-state warfare, his model may be applied equally to non-state actors.

Clausewitz begins his trinity describing "a blind natural force," which he saw as a basic fact of human existence and the source of all conflict. Be it an individual or a nation, when one feels wronged, it is the passion of the heart that seeks revenge. This primary element of the trinity -- passion -- demands action. Because things go wrong in this world, taking action, especially violent action, always involves risk; Clausewitz called this second element "chance." Fortunately, mankind is endowed with reason. It is this final element of "restraint" that weighs risk and attempts to channel passion into an effective course of action; the execution of which still involves chance.

Clausewitz goes on to explain that in a nation-state construct the element of passion most clearly manifests itself in form of the populace. If the passion of the people is not behind a war effort, it cannot succeed. The government, representing the element of restraint, interprets the will of the people, weighs the risk of war and thereby formulates war policy. Policy is guidance to the military. Execution by the military is a

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[60] Clausewitz, *On War*, 89.

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function of the creative genius of the commander and the fog and friction inherent to the battlefield.

The relationship between the people, the government and the military is not static; it exists before the war, changes throughout the war, and is itself affected by the war. News from the battlefield affects the passions of the people, which in turn shifts the reason of the government, resulting in modified guidance to the military. This has always and will always be the case. The only question is the speed and manner in which these dynamics play out and the forms in which the trinitarian elements manifest. Though the primary manifestation of restraint since the Westphalian Peace of 1648 has been the nation-state, the world is now clearly moving into an era where non-state actors exhibit increased influence over the passions of people and therefore become empowered to formulate a new type of war policy. By appreciating the Clausewitzian Trinity, one understands that war is a holistic, organic phenomenon. A military force in a Clausewitzian world can no more wage independent war than a plant can grow independently of water and soil. Instead "policy" flows through the war like lifeblood, giving the conflict its meaning. "Policy," Clausewitz defined as "the trustee…representative of all interests of the community."[61] Policy is the product of "politics," which he defined as "the intercourse of governments and peoples."[62]

Clausewitz wrestled his entire life with the dueling characteristics of politics and violence, which were both obviously a part of war, yet alarmingly different in their characteristics. As a soldier he understood the dirty, brutish reality of battle, something characteristically distinct from the rational discourse of politics. But as a general and an

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[61] Ibid., 606-607.
[62] Ibid., 605.

intellectual, he understood that no war was ever undertaken without a political motive, and that the course of violence undertaken far from the purview of the government ultimately defined the boundaries of political power. Somehow war's nature involved both passion and reason. Ultimately, Clausewitz worked both politics *and* violence into his two most cited definitions for war: "War is thus an act of force to compel our enemy to do our will.[63] And, "War is nothing but the continuation of policy with other means."[64] While the first of these definitions has been long favored by the Uptonian reading of *On War*, one is wise today to recall that it was the second definition that Clausewitz stressed.

Political Nature of IO

With Clausewitz's definition of politics in mind and the concept of the trinity established, the political nature of IO comes into focus. Information is about communication; it is about perception. Through the lens of the Clausewitzian trinity, one begins to appreciate that victory in war is a function of communication and perception. It is how the people and the governments on all sides of a conflict perceive the actions on the battlefield that determines the final, political result of a war.

Colonel William Darley, an Army Public Affairs officer, contends that "the debate over IO grows more confused because IO continues to be wrongly understood" as a "family of related skill sets or capabilities that in all cases augment 'kinetic operations.'"[65] To better understand the relationship between "kinetic operations" and IO, Darley envisions a spectrum of conflict which extends from Clausewitzian "Total

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[63] Ibid., 75.
[64] Ibid., 69.
[65] William M. Darley, "Clausewitz's Theory of War and Information Operations," *Joint Forces Quarterly*, 1st Quarter 2006, 73.

war" (pure violence) at one end and IO (pure politics) at the other. Any conflict can be characterized as existing somewhere along this spectrum. Where on the spectrum a conflict lies determines a supporting or supported relationship between IO and "Kinetic Operations." Conflicts at the "total war" end of the spectrum are characterized by pure violence (e.g. Thermonuclear War) and, accordingly, are dominated by Kinetic Operations. At the other, conflicts are pure politics, devoid of any physical violence (e.g. Political Elections). As one moves toward the pure politics end of the spectrum, IO increasingly becomes the "main effort," supported by Kinetic Operations. Most importantly, at all points on the spectrum, IO and Kinetic Operations coexist, "inseparably linked, like strands of a DNA molecule in a gene, and in the same way have a dominant/recessive relationship…depending on where the conflict falls on the continuum relative to the polar extremes."[66]

Darley's construct vividly places war in its political context and illustrates that IO has an "intensely political character" through the powerful image of a DNA strand. [67] The benefit of this model is that it highlights the inherently political nature of IO and demonstrates that physical and informational actions coexist in a mutual relationship. Policy gives war its meaning. Likewise IO appeals to war's logic. However, Darley's model does not go far enough. The cost of placing IO in its political context is the inference that kinetic actions produce only "violent" results as opposed to political results. We know from both common sense and Clausewitz that this is not the case. Both kinetic actions and informational actions produce political results.

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[66] Ibid., 79.
[67] Ibid., 75.

The great need of the U.S. military today is to move beyond thinking of actions as discretely physical or cognitive. Our interconnected age demands unified patterns of thought. To be successful in today's environment we must move beyond visualizing IO and kinetic operations as merely interwoven (like strands of DNA), and recognize that they are more like two sides, or perspectives, of a single operational "coin." Continuing the analogy, we remember that a coin may only be "spent" in whole by a single operational commander when "purchasing" dominance over our adversaries. In order to obtain victory in the Information Age, commanders must bring intellectual currency to the battlefield, "coins" that bear the seal of lethal force on one side and informational appreciation on the other.

Chapter 4

INFORMATION AGE CONFLICT

This is all a war of perceptions. This is not a physical war in terms of how many people you kill or how much ground you capture, how many bridges you blow up. This is all in the minds of the participants.[1]
            -General Stanley McChrystal
            Commander, ISAF Afghanistan

Our strategic environment has forever changed. It demands a realignment of the critical tasks needed to be successful as a military force.[2]
            -General Pete Chiarelli
            Vice Chief of Staff, U.S. Army

Though he wrote almost two centuries ago, Clausewitz remains the most relevant military theorist for understanding Information Age conflict. As Bernard Brodie recognized, "Clausewitz's work stands out among those very few older books which have presented profound and original insights that have *not* been adequately absorbed in later literature."[3] Because the fundamental nature of war that Clausewitz identified is based in the heart of man, it has not changed since the nineteenth century. Perhaps in every other way though, the environment in which war is waged today is dramatically different. Clausewitz maintained that though war had an immutable *nature*, it would manifest differently given the varying *character* of the age.

In the present age, "the world is flat."[4] By flat, globalization guru Thomas Friedman meant that "it is now possible for more people than ever to collaborate and compete in real time with more other people on more different kinds of work from more

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[1] Jonathan Marcus, "Afghanistan conflict an 'information war'," *BBC.* Feb 11, 2010. http://news.bbc.co.uk/2/hi/south_asia/8511477.stm (accessed Februrary 17, 2010).
[2] Peter W. Chiarelli and Patrick R. Michaelis, "Winning the Peace: The Requirement for Full-Spectrum Operations," *Military Review,* Jul-Aug 2005, 15.
[3] Bernard Brodie, "The Continuing Relevance of *On War*," in *On War,* by Carl von Clausewitz, ed. and trans. Peter Paret and Michael Howard (Princeton: Princeton University Press, 1984), 50.
[4] Thomas L. Friedman, *The World is Flat* (New York: Farrar, Straus and Giroux, 2005).

different corners of the planet and on a more equal footing than at any previous time in the history of the world – using computers, e-mail, networks, teleconferencing, and dynamic new software."[5] The last two centuries have brought truly unprecedented change upon mankind. The industrial and political revolutions that grew out of Europe and the New World in the late eighteenth century transformed global society in ways unimaginable to the classical world. Science, and from it, improved hygiene and medical technology, have caused infant death rates to plummet and the global population to rise from its historically stable level of approximately 1 billion people, to nearly 7 billion at the dawn of the twenty-first century. Seven hundred percent increase in 200 years is undoubtedly revolutionary change. Similar transformations have taken place in all forms of technology including economics, finance, trade, transportation, and, unfortunately, weapons. But it is Information Technology (IT), including global telecommunications, that stands apart from all the human advances because it represents a self-perpetuating engine for change. Globalization, as powered by IT, has changed war into a global, real time phenomenon. Where once powers were relatively constrained by geography, we now have global powers, engaged in global conflicts, between civilizational groups.

Historian Victor Davis Hanson has highlighted that the American way of war is actually part of much broader tradition in warfare that spans all of western civilization. Hanson observes that the global nature of contemporary conflict is challenging the effectiveness of the West's preferred warfighting style. "Western man is in a dilemma. His excellence at frontal assault and decisive battle might end all that he holds dear despite the nobility of his cause and the moral nature of his warmaking. We in the west

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[5] Ibid., 8.

will have to fight as non-Westerners – in jungles, stealthily at night, and as counterterrorists – to combat enemies who dare not face us in battle."[6] Regardless of whether the nature of war has broadly changed, the effectiveness of the preferred manner in which Americans wage war is clearly in question. This chapter examines how the rise of the Information Age has affected the conduct of war as understood by the Clausewitzian trinity.

The Information Revolution

When knowledge transfers from one mind to another mind, it begets new knowledge. In this way human society learns; advancement builds on advancement. IT facilitates the transfer of knowledge. This characteristic makes IT a unique enabler for the advancement of all forms of knowledge, while also affording an exponential dynamic to the growth of IT itself. After centuries of little improvement upon the basic means of written communication, IT began its significant progress with the invention of the moveable type printing press circa 1439.[7] The printing press played a central role in pulling Europe out of the dark ages, assisting in the spread of literacy, the rise of science, and ultimately, contributing to the political revolution in France and America.

Though Clausewitz lived during the early stages of the Industrial Revolution, it was Political Revolution in France which wrought the greatest influence on the changing character of war in his time. Early industrialization did manage to outfit mass armies of soldiers with increasingly well performing smoothbore firearms and cannons and these factors weighed heavily in both Clausewitz's and Jomini's understandings of war. The

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[6] Victor Davis Hanson, *The Western Way of War* (Los Angeles: University of California Press, 1989), xxix.
[7] Clay Shirky, *Here Comes Everybody* (New York: The Penguin Press, 2008), 67.

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Information Revolution was a delayed, secondary wave of industrialization that did not materially impact Napoleonic warfare. Clausewitz died in 1831, just prior to the first implementation of the telegraph in Prussia.[8] The telegraph, as the control device for the railroad, would play a decisive role in the American Civil War and the German Wars of Unification during a timeframe that Clausewitz's life reasonably would have spanned had he not died as a relatively young man.[9] We can only speculate as to how his theory may have changed if Clausewitz had witnessed the remarkable effects that IT would have on warfare within fifty years of his death.

The telegraph was only the beginning of the continued growth of IT during the nineteenth century. By 1850, the first undersea cable connected Great Britain to continental Europe and, less than a decade later, to North America. The year 1876 brought Alexander Bell's patent for the telephone, and before the turn of the twentieth century, Marconi had received a British patent for the wireless radio. Each of these technologies would have significant impact upon the character of warfare in WWI.[10]

During the twentieth century, growth in IT would be unreservedly explosive. Nazi Germany introduced the first national television network and broadcast the 1936 Olympics.[11] The 1940s brought the first electro-mechanical computers, and the 1950s the first vacuum tube computers. The 1960s applied fiber-optic technology to long haul communications and the 1970s connected computers together with Xerox's Ethernet.

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[8] Absolute Astronomy, "Semaphore," *AbsoluteAstronomy.com,* http://www.absoluteastronomy.com/topics/Semaphore (accessed March 27, 2010). The Prussian Semaphore System was implemented between Berlin and Koblenz in 1832.

[9] James R. Beniger, *The Control Revolution* (Cambridge: Harvard University Press, 1986), 17. Beniger presents the definitive study of the growth of information technology and its societal effects.

[10] Ibid, 17-19.

[11] Ibid, 19. See also Tom Genova, "Television History - The First 75 Years," *TV History,* http://www.tvhistory.tv/1936%20German%20Olympics%20TV%20Program.htm (accessed March 27, 2010).

Japan implemented the first commercial cell phone service in 1979. Personal computers arrived in homes during the 1980s and in 1994 broad based Internet use became practical with the invention of the World Wide Web.[12] The twenty-first century thus far has largely been about moving our lives to depend more deeply on web based services such as Google (2004), YouTube (2005), facebook (2006) and Twitter (2007).[13] Apple introduced the iPhone in 2007 putting the full power of these and other internet applications into the pocket of users in most modernized countries.[14] At the end of 2009, the UN reported that, "Mobile cellular has been the most rapidly adopted technology in history," estimating that there are 4.6 billion global subscriptions, yielding at global penetration rate of well over 60%. Cell phone availability is truly approaching ubiquity as even the poorest countries, that never before had wired telephone service, are finding it economically feasible to install cellular services.[15] Given that most new phones have cameras, basic internet and texting capability, the internet is fast becoming the infrastructure for a globally connected society.

How different is the world we live in today from Clausewitz time? And how has the ability for societies to communicate directly in a "many to many" fashion affected the interaction between governments and peoples as they both witness actions on the

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[12] Ray Kurzweil, *The Age of Spiritual Machines (*New York: Penguin Books, 1999), 264-277. Kurzweil presents an exhaustive chronology of advances in information technology through 1999.
[13] Clay Shirky, *Here Comes Everybody* (New York: The Penguin Press, 2008), 49-50, 101,183. Shirky provides analysis of the social implications of these and other internet based services.
[14] Peter Cohen, "Macworld: Jobs introduces iPhone, AppleTV ," *Network World,* Jan 9, 2007. http://www.networkworld.com/news/2007/010907-jobs-iphone.html (accessed March 27, 2010).
[15] International Telecommunications Union Statistics Division, "The World in 2009: ICT Facts and Figures," *The International Telecommunications Union,* Dec 2009, http://www.itu.int/ITU-D/ict/material/Telecom09_flyer.pdf (accessed Feb 20, 2010). The United Nation's International Telecommunications Union (ITU) in 2009 estimated global cell phone penetration to be 67%. Given that some people have more than one phone and that others are too young or too old to reasonably use one, we are approaching a condition where everyone on earth who wants a cell phone can have one.

battlefield in near real time? To understand how completely different the interchange

between the elements of the Clausewitzian trinity are today as compared with

Clausewitz's time, we will compare two historical vignettes. First, we return to one year

prior to Clausewitz's birth to witness how physical distance between the battlefield and

the populace influenced political outcomes in war. Napoleon Bonaparte's exploits in the

Middle East at the turn of the nineteenth century provide a stunning example of just how

separated tactical actions were from political implications. Second, we examine the

reality of Information Age conflict in the U.S. military's 2004 campaign in Fallujah, Iraq.

The Transformation of War

Napoleon (Pre-Clausewitz)

By 1797, Napoleon Bonaparte had ascended to the rank of General and become a

national hero in revolutionary France for his dazzling victories in northern Italy. His

political ambitions were only beginning to emerge when he challenged the Directory's

concept for a cross channel invasion of England in the summer of 1798.[16] As an

alternative Napoleon offered that he would lead an Army to conquer Egypt, and from

there threaten England's rich commercial interests in India. Egypt, it seemed, was ripe

for the picking. The land was decreasingly controlled by the Ottoman Empire and had in

recent times become effectively ruled by the Mamelukes – a slave class of excellent

cavalrymen. Taking Egypt back from the Mamelukes would be more economically

efficient than invading England, and might even be perceived as a favor by the Ottoman

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[16] William Doyle, *Oxford History of the French Revolution, Second Edition*, (Oxford: Oxford University Press, 2003), 318. The Directory was the ruling body of five leaders in France from 1795-1799.

Sultan; the Turkish ruler of the Empire which was effectively aligned with France against England, but not officially engaged in their war.[17]

Napoleon's idea won the day and after narrowly avoiding disaster at the hands of Rear Admiral Nelson's Fleet in the Mediterranean, the approximately 32,000 troops of the Army of Egypt disembarked their ships in Alexandria on 1 July 1798. In short order, Napoleon pushed the French Army inland and defeated the Mameluke forces at the Battle of the Pyramids. Two days later, on the 24th of July, Napoleon entered Cairo and effectively controlled Egypt. From there, things quickly went downhill. Admiral Nelson annihilated the French fleet while at anchor in Aboukir Bay on 1 Aug. The "crushing victory" at the Battle of the Nile, one "in its completeness never exceeded during the days of sailing ship warfare" effectively destroyed any chance of success for the French campaign.[18] Cut off from supply and news from Europe, the nature of the occupation was instantly transformed for the French Army.

In the fall of 1798, the Turks surprisingly entered the war against France and promised to send the Army of Damascus south to attack Napoleon. With the British Navy controlling the Mediterranean, Napoleon tragically decided to cross the Sinai and invade Palestine (modern day Israel) in a pre-emptive strike against Damascus. From March through June he would conduct a series of engagements up the Palestinian coast through Gaza and Jaffa ultimately laying siege to the ancient walled city of Acre. Though the disciplined French infantry repeatedly dispatched attacks by vastly outnumbering hordes of Arabic cavalry, the combined effects of distance, disease and

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[17] David G. Chandler, *The Campaigns of Napoleon,* (New York: The MacMillan Company, 1966), 205-246.

[18] John Keegan, *Intelligence in War* (New York: Alfred A. Knopf, 2003), 58.

lack of water wore down the French force. Unable to evacuate his sick and wounded, "Bonaparte resorted to mercy killing" his own men to maintain mobility.[19] The resulting low morale and dwindling logistical support caused the French force to culminate without achieving any significant success. Napoleon withdrew into Cairo on June 14th.

Failed and isolated, it became "personally expedient for Bonaparte to abandon Egypt; none of the conditions that had made it an attractive theater in 1798 were still valid a year later; by no stretch of the imagination could the Orient be described as the major theater of the war, nor was there much remaining prospect of advancement."[20] Bonaparte secretly made preparations for his return to France and waited for the right opportunity. Two months later he left his dwindling Army under the command of an enraged General Kleber, gathered a few key generals he thought useful for his future plans, and sailed for France.

Napoleon's renowned "flair for propaganda was by now well developed" and he saw clearly a strategic "opportunity to conceal his own failure in the Orient, and at the same time…pose as the savior of France."[21] In an age when news spread only as fast as horse or sail, the British blockade of Alexandria had effectively prevented France from accurate knowledge of the Egyptian campaign. Napoleon's forty-seven days at sea provided ample time to perfect his story and ensure that those aboard brought only his version back to Paris. Making landfall in France on October 9, 1799, the "good news" of Napoleon's victories in the Orient travelled like a bow-wave before his entourage. "Spirited crowds gathered in the towns; Lyon, the Republic's second city, illuminated her

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[19] Chandler, *The Campaigns of Napoleon,* 241.
[20] Ibid., 242.
[21] Ibid.

houses and improvised a play in his honor, *The Return of the Hero*."[22] In Paris, Bonaparte "returned triumphant", "banquets were given" to honor the conquering General and greet him back into political society and thus the stage was set for his soon ascendancy to the head of state.[23]

Tactical defeat in an age of disconnection was effectively twisted into political gain. Moreoever, not only was Napoleon's defeat disguised, but his morally reprehensible behavior was never brought under scrutiny by the political body or even to the awareness of the national conscience. Physical distance had proved an effective barrier to the transmission of information, completely separating the theater of war from the French populace and their fledgling republican government.

Contemporary Conflict – The Media Age

Napoleon's experience in Egypt stands in such stark contrast to our present reality as to seem hardly possible. Today, we are like the proverbial frog that has had the water turned up so gradually in our cauldron that it is difficult to perceive the intensity of our condition. IT invaded the battlefield gradually, in parallel with the rest of society. Each new conflict throughout the nineteenth and twentieth centuries brought new challenges and opportunities to politicians and generals as the horrors of the battlefield crept ever closer to home. Battlefield transparency came home to U.S. audiences most dramatically during the American Civil War wherein front line newspapermen often filed reports of battles by telegraph the same day to far away newspapers.

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[22] Steven Englund, *Napoleon: A Political Life* (New York: Scribner, 2004), 153.
[23] Ibid.

During WWII, the U.S. Government was able to control the media because the battles were on distant continents, but controlling impassioned perceptions of war became ever more difficult as advances in photography and film began to bring powerful images to the home front. The American public gained the perception of the war that the U.S. government wanted to portray. The Government's Office of War Information forbid images of undraped American dead to be published until September of 1943. [24] Both the Japanese and Germans were demonized through U.S. government sponsored propaganda.

Vietnam marked a significant leap in the connection of the battlefield to the home front as America's first television war brought color video images and commentary into living rooms as part of the daily evening news. Desert Storm continued this trend as the first "CNN war." Video reporting from the theater of war continued 24 hours a day on the multiple networks now proliferated by advent of cable television. Real time connection to the battlefield was now a permanent part of war, and the media an important factor which military commanders needed to anticipate, prepare for, and dedicate resources to manage.

The advent of the internet has made the home front connection to the battlefield even more intimate and nuanced. Frontline reporters no longer wait for news cycles to file stories through editors in other times zones, instead "posts" are updated continuously on weblogs ("blogs"). Soldiers in combat routinely record video and post it to YouTube. Spouses and families back home are in not just daily, but sometimes hourly contact with their soldiers in theater, and remain well appraised, via social media technologies, as to whether loved ones are safely in an operating base or out in harm's way on patrol.

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[24] Life Magazine, "In Combat: LIFE's Great War Photos," *Life Magazine.* http://www.life.com/image/50659710/in-gallery/26812 (accessed Feb 20, 2010).

Political unrest and natural disasters are now known to the world as they are happening via Twitter updates. Social media technologies allow humanitarian relief efforts to be simultaneously observed and evaluated on the world stage even as disparate public and private sector actors coordinate the operation's execution using the very same technology.[25]

Examples abound for how this rich interconnectedness affects the prosecution of war. However, the United States' decision to invade Fallujah, Iraq in 2004 clearly illustrates how Information Age technology intimately and immediately connects the elements of the Clausewitzian trinity. Barely one year after the U.S. invasion of Iraq, four Blackwater contractors supporting the U.S. forces were attacked and dragged from their cars in the town of Fallujah, just west of Baghdad. The contractors were subsequently beaten and set on fire. Their bodies were dragged through the streets and eventually strung up like trophy animals on the superstructure of a local bridge. Images of the charred bodies streamed across the global news networks and splashed on American television screens and newspapers the same day: March 31, 2004.[26]

The horrific images from Fallujah shocked the American public and raised questions as to the appropriate role of contractors in combat. Within a day, Defense Secretary Donald Rumsfeld met with CENTCOM Commander General John Abizaid to

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[25] Admiral James G. Stavridis, "SACEUR Address to AFCEA: Cyberspace Innovation in a Networked World," *Armed Forces Communications Electronics Association,* February 2, 2010. http://www.afcea.org/events/west/10/documents/SACEURADDRESSTOAFCEA.pdf (accessed Februrary 20, 2010). Admiral Stavridis is an aggressive innovator continually pushing the use of IT in military and intergovernmental applications. These comments are in reference to relief operations ongoing in Haiti in February 2010.

[26] David D. Perlmutter and Lesa Hatley Major, "Images of Horror From Fallujah," *Nieman Foundation for Journalism at Harvard.* Summer 2004. http://www.nieman.harvard.edu/reportsitem.aspx?id=100834 (accessed Feb 20, 2010). This article, while documenting the details of the Fallujah incident, also analyzes the quandary that journalists face in determining how to present accurate accounts of war imagery, without unduly aggravating public passions.

develop a response plan.[27] As a result, a mere five days after the massacre, the 1st Marine

Division launched Operation Valiant Resolve, an attack by two reinforced Marine

Battalions to root out the insurgents responsible for the Blackwater attacks and establish

control of Fallujah. The hastily planned operation proved ineffective as the Marines

faced far more serious resistance than anticipated. "U.S. Forces unilaterally halted

combat operations after a few days because of a lack of support from the Iraqi Interim

Government and international pressures amid media focus on unsubstantiated enemy

reports of collateral damage and excessive force."[28]

The contrast between Napoleon's Egyptian campaign and Fallujah could hardly

be starker. In Napoleon's case, actions on the battlefield never affected public

consciousness, nor the direction of the war. In Fallujah, actions in the combat zone

immediately stoked public passions, prompted a response from government officials and

resulted in new policy direction for the war: attack Fallujah. The Marines, who had only

recently taken over responsibility for Fallujah from the Army, had intended to take a soft

approach toward winning over the town in the form of multimillion dollar construction

projects. As a result of the Blackwater attacks, the government policy concerning the

town changed completely; mandating not only lethal force, but also such immediacy that

the attack was not appropriately planned or executed. In the end, the operation was

halted because insurgents manipulated the media with false imagery faster than the

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[27] Jeffrey Gettleman, "The Struggle for Iraq: The Occupation; Mix of Pride and Shame Follows Killings and Mutilation by Iraqis," *New York Times,* April 1, 2004, http://www.nytimes.com/2004/04/02/world/struggle-for-iraq-occupation-mix-pride-shame-follows-killings-mutilation-iraqis.html?scp=2&sq=April%202,%202004%20rumsfeld&st=cse (accessed Feb 20, 2010).

[28] Thomas F. Metz, "Massing Effects in the Information Domain," *Military Review*, May - June 2006, 5-6.

coalition could respond. The Battle of Fallujah was both started and stopped due to intense connectivity between the battlefield and the home front.

Modern War – Fallujah II

Through the summer and fall of 2004, coalition forces regrouped and developed a thorough plan to re-attack Fallujah. LTG Metz, the Multi-National Corps – Iraq (MNCI) Commander provides a candid assessment of the first Fallujah attack stating that "the operation failed because operations in the information domain were not integrated into the battle plan."[29] Coalition forces had viewed the operation solely from a tactical combat perspective. They had not planned to notify local civilians so they could evacuate, they had not leveraged informational capabilities such as PSYOP, and they had not prepared and dedicated resources toward documenting and getting the truth about operations out faster than the enemy could spread their disinformation.

These are precisely the things the coalition did do when they returned to Fallujah in October of 2004. The second Fallujah attack was intentionally planned with thorough consideration for the information environment. LTG Metz and his staff came up with the concept of an "IO threshold" – essentially an assessment of the public acceptance of the operation. Metz explains,

> Kinetic shaping operations had to be conducted underneath the IO threshold; that is, we couldn't remove a city block to prepare the battlefield because such an act could create negative effects in the information domain. Any resulting negative local and international media coverage could impair the conduct of the overall campaign.[30]

Though little detail is available that explains exactly how the IO threshold tool actually worked, the thinking it represents is a perfect example of the type of politically attuned

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[29] Ibid., 5.
[30] Ibid., 6.

warfighting ethos that the United States must develop to be successful in the Information Age. Demonstrating his competence as an Information Age warrior, LTG Metz stated, "We must consider how tactical actions will influence the operational and strategic levels."[31] Understood from a Clausewitzian perspective, the IO threshold would have been called a "political threshold" because it gauges the interaction between viewing publics and their governments' appetite for the conflict. The fact that he called it an "IO threshold" is representative of the U.S. military's unflinching reservation for appearing associated with anything political. No U.S. soldier would propose a metric or control measure that made an assessment on "politics."

Nonetheless, the reality of the contemporary operating environment is that the tactical, the political, and all points in between, are intimately connected via IT. An appreciation for this reality thoroughly informed the planning and conduct of the second invasion of Fallujah, Operation Al Fajr, in October 2004. For this operation "massing effects in the information domain…meant precise, painstaking execution of all the core elements of traditional IO as well as other elements of combat power that had information implications."[32] The operation was planned with the perceptions of both local and global audiences in mind. These considerations drove all other activities and led to the success of the operation. By planning with perception in mind Operation Al Fajr provided a model for Information Age warfare. BBC news producer Kenneth Payne wrote not long after Al Fajr, "winning modern wars is as much dependent on carrying domestic and international public opinion as it is on defeating the enemy on the battlefield." [33]

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[31] Ibid., 12.
[32] Ibid.
[33] Kenneth Payne, "The Media as an Instrument of War," *Parameters*, Spring 2005, 81.

Perception-oriented thinking is the essence of IO. This orientation has been at the core of General Stanley McChrystal's art since he took command of operations in Afghanistan in mid 2009.[34] General McChrystal's fundamental change in strategy has been to focus on the protection of the host nation population, making their perceptions of ISAF operations paramount. "The shot you don't fire is more important than the one you do" was the General's early guidance to the force. Calling this "counterinsurgency math" General McChrystal explains that, "if you encounter 10 Taliban members and you kill two…you don't have eight remaining enemies. You have more like 20: the friends and relatives of the two you killed."[35] Consider how radical this guidance sounds when contrasted with the historical American way of war. This new guidance is diametrically opposed to the philosophical basis for mass and firepower.

The operation recently launched in February 2010 in Afghanistan to secure the village of Marja in Helmund Province underscores this dynamic. Veteran military news journalist Thom Shanker explains that the recent push into Helmund Province "is a campaign meant to shift perceptions as much as to alter the military balance, crush an enemy army or seize some vital crossroads." Just prior to the Marja operation, General McChrystal himself explained that Afghanistan "is all a war of perceptions. [It] is not a physical war in terms of how many people you kill or how much ground you capture, how many bridges you blow up. [It] is all in the minds of the participants."[36] Nonetheless, war still indisputably involves fighting. It just means fighting wisely, with

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[34] See Headquarters International Security Assistance Force (ISAF) Memorandum, "Subject: Tactical Directive," 9 July 2009. http://www.nato.int/isaf/docu/official_texts/Tactical_Directive_090706.pdf (accessed May 26, 2010).
[35] Even Thomas, "McChrystal's War," *Newsweek.* Sep 26, 2009. http://www.newsweek.com/id/216237/ (accessed Nov 4, 2009): 1.
[36] Marcus, "Afghanistan conflict an 'information war'," 1.

persistent flexibility and an eye fixed upon the political objective. Maintaining proper

balance between violence and perception appears to be the key attribute for Information

Age combat leadership. Shanker explains that although Marja "is a battle for public

support, it is by no means a phony war. The bullets, bombs and booby traps are real,

putting everyone in the area, including civilians, at real risk."[37]

The Information Age warriors fighting in Marja today are no less combat leaders

than at any point in history, indeed the complexity of their task is unprecedented. Not

only are they saddled with leading their troops and coordinating joint fire support, they

must also cajole their nascent Afghan Army partners into fighting and maintain the good

graces of multiple watchful global audiences. While covering operations in Marja,

Jonathan Marcus of the BBC has come to understand that this

> new kind of warfare means that the information battle has to be fought on
> multiple fronts by multiple actors. From the fields of Helmand to the small
> towns of Kansas; from the tribal areas of Pakistan to British cities where voters
> are girding themselves for a coming election, the news from the Afghan battle-
> front will shape perceptions – and these perceptions will inevitably shape future
> policy.[38]

Perhaps unwittingly, Marcus validates Clausewitz by mentioning every aspect of the

trinity: the Army in the field, the people (in Afghanistan, Pakistan, the UK and the USA)

and government policy makers running the war. Despite the fact that the environment of

warfare today could hardly be more different than it was in 1830, Clausewitz's trinity is

alive and well.

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[37] Thom Shanker, "Afghan Push Went Beyond Traditional Military Goals," *New York Times.* Feb 20, 2010. http://www.nytimes.com/2010/02/20/world/20military.html?ref=asia (accessed Feb 20, 2010).
[38] Marcus, "Afghanistan conflict an 'information war'," 3.

Information Age Warfare

The thoroughly political nature of war that only Clausewitz's giant intellect could discern in pre-industrial Europe is today readily apparent in routine news reports. Society's march into the Information Age has brought the validity of Clausewitz's theory into sharp relief. Professor James Schneider of the Army's School of Advanced Military Studies (SAMS) in 1988 wrote of Clausewitz trinity: "A fourth factor that needs to be considered is the role of the media. It can have a weight of its own in determining whether the scales are tipped toward war. In Clausewitz's time the media had little if any impact on this relationship. Today the weight of information can be decisive."[39] In the more than twenty years since Schneider wrote, the impact of IT on warfare has expanded far beyond just the media. In attempt to understand this broader dynamic Dr. Antullio Echevarria of the Army War College more recently examined the effects of globalization[40] on the Clausewitzian trinity:

> Globalization is *strengthening* the role that politics will play in war by affording it the capability to exert great real-time control over military operations. Globalization is also making the element of hostility *more critical*. Political leaders can now mobilize hostile passions *more quickly* and over a larger area than hitherto particularly in areas "suffering" from the spread of globalization. Finally, contrary to expectation, the increase in information that globalization brings may well *intensify* the play of chance and probability in war. Certainly, skillful commanders and well-trained militaries still matter.[41]

By speeding up the interaction between the trinitarian elements, global information technology is serving to *intensify* warfare. In this way, information has an effect analogous to humidity, which makes hot weather feel hotter, and cold weather, colder.

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[39] James J. Schneider, *Theoretical Paper No. 3: The Theory of Operational Art* (Leavenworth: School of Advanced Military Studies, 1988), 6.

[40] Antulio J. Echevarria II, *Globalization and the Nature of War* (Carlisle: U.S. Army Strategic Studies Institute, March 2003), v. Dr. Echevarria defines globalization as "the spread of information and information technologies, along with greater public participation in economic and political processes." In this way, "globalization" is the primary effect of the Information Age.

[41] Ibid., vii, 21. Emphasis added.

The speed of global information transfer increases the tension between the people, the government, and the military on the battlefield and makes the true, political nature of war more apparent.

Chairman of the Joint Chiefs, Admiral Michael Mullen has recently made numerous observations about the changing character of war. He asserts "that the lines between strategic, operational and tactical are blurred beyond distinction."[42] Because the actions of the battlefield are almost immediately observed by host nation and domestic populaces, small events can have significant impact on the direction of the war. Therefore, instead of applying force in an overwhelming fashion (in keeping with the American way of war), Admiral Mullen insists that today "we must use force only…in the proper capacity, and in a precise and principled manner."[43] In other words, at the tactical level, the policy objectives of the war always have to be kept in mind. Finally, the Chairman insists that at the strategic level, "policy and strategy should constantly struggle with one another. The experience of the last nine years tells us…that strategy will have to change as…operations evolve."[44] While some might argue that these dramatic changes to U.S. military doctrine are only temporary reflections of the nature of counter-insurgency warfare, we should recognize that all future wars, nation-state or otherwise, will be fought in the same information saturated environment. Therefore, we should not assume too quickly that future nation-state wars will not employ equally measured application of force.

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[42] Michael G. Mullen, "Strategic Communication: Getting Back to Basics," *Joint Forces Quarterly*, 4th quarter 2009, 2.
[43] Michael G. Mullen, "JCS Speech: Landon Lecture Series Remarks," *Joint Chiefs of Staff,* March 3, 2010, http://www.jcs.mil/speech.aspx?id=1336 (accessed March 12, 2010).
[44] Ibid.

While the United State's preferred "way of war" may have been feasible through the era in which our nation has existed, the further we progress into a globalized age, the less we can afford to maintain the fantasy that warfare can be conducted in isolation of political considerations. The U.S. military can no longer ignore the political nature of war nor can it afford to maintain doctrines like IO that obfuscate the political implications of combat from military commanders. While the fundamental nature of war remains unchanged, the environment in which war is conducted has changed so significantly as to mandate a dramatically different approach to warfare. There is no doubt that the world has critical need for an Information Age military theorist, but until one emerges, the U.S. military would be well served to remove at last its institutional, Jominian-Uptonian glasses, and attempt anew to appreciate Clausewitz's enduring lessons.

Chapter 5

COMING OF AGE (RECOMMENDATIONS)

> *It is no longer sufficient to think in purely kinetic terms. Our traditional training model, still shuddering like an echo of our Cold War mentality, has infused our organization to think only in kinetic terms. This demands new modalities of thinking and a renewed sense of importance to the education of our officer corps.*[1]
> -General Peter W. Chiarelli
> Vice Chief of Staff, U.S. Army

General Chiarelli highlights that modern conflict "demands new modalities thinking." IO is a doctrine born of an American military culture that fails to appreciate the political nature of war. Establishing IO as a subordinate discipline outside the professional expertise of commanders and operators reflects the American preference that warfare be conducted in isolation from political interference. This is a legacy mindset born of Industrial Age experience. Maintenance of this bifurcated "Ops vs. Info Ops" construct ultimately reduces the U.S. military's ability to design effective, Information Age campaigns, and inhibits the development of the dynamic, broadly accomplished and thoughtful leaders necessary to lead twenty-first century armed forces.

To improve, the U.S. military must overcome its preferred way of war and transform its warfighting ethos. Specifically, without losing its longstanding competence in the conduct of warfare, the U.S. military must embrace an awareness of war's political purpose. In Clausewitzian terms, this means gaining an appreciation for war's "logic," without losing proficiency in war's "grammar."[2] Doing so will require that the U.S. military do three things:

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[1] Peter W. Chiarelli and Patrick R. Michaelis, "Winning the Peace: The Requirement for Full-Spectrum Operations" *Military Review* (Jul-Aug 2005): 15.
[2] Carl von Clausewitz, *On War* (Princeton: Princeton University Press, 1976), 605.

- Recognize IO as a transformational concept
- Engender a contemporary Operational Art that subsumes IO
- Increase emphasis on leader development and education

IO is a Transformational Idea

To get back on track toward developing Information Age warfighting capability the U.S. military must recognize IO to be a transformational idea. Rather than approaching IO as a new capability to be developed, the U.S. military should recognize IO to be more of a description of a professional development objective. IO is a term of art that describes the broadened suite of skills and capabilities that *all* commanders and operators must possess to be effective in the Information Age. Forward thinking analysts have long recognized this to be true. Tim Thomas of the U.S. Army Foreign Military Studies Office notes, "Future historians might well cite the years 1993 and 1994 as the period during which the U.S. military and associated national defense organizations identified Information Warfare as a conceptual vehicle for transitioning from the precepts of the Cold War into the new global realities of the Information Age."[3]

Unfortunately, as the history in this paper has demonstrated, though we were prescient enough to recognize the need to adapt new concepts, our core military ethos prevented us from properly identifying which subsets within the institution needed to adopt the new ideas. This is entirely normal for military transformation; it is always difficult to discern how exactly to adapt to new conditions. As professor Bruce Berkowitz confirmed in 1997, "IW concepts have required a few years to mature….just as aircraft had been in use for almost three decades before the doctrine of strategic

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[3] Timothy L. Thomas, "Is the IW Paradigm Outdated? A Discussion of U.S. IW Theory." *Journal of Information Warfare*, (2003): 117.

bombing was invented."[4] That was written thirteen years ago. Today, after nine years of

fighting non-state actors, it is clear that effective Information Age warfare requires a

broad and nuanced approach that can only be achieved by enlightened commanders. No

number of IO specialists, staff sections or organizations will ever improve the U.S.'s

ability to wage Information Age warfare if they are overseen by commanders who only

understand fire, maneuver, and destruction.

Doctrine and other professional literature is rife with confirmation that the critical

contemporary need is for military commanders to develop an informational appreciation

and approach to operations. Joint Publication 3-13, *Information Operations*, identifies

that the commander is the key to employing IO successfully:

> The commander's vision of IO's role in an operation should begin before the
> specific planning is initiated. A commander that expects to rely on IO
> capabilities must ensure that IO related PIR [Priority Intelligence Requirements]
> and RFI [Requests For Information] are given high enough priority prior to a
> crisis. At a minimum, the commander's vision for IO should be included in the
> initial guidance. [5]

Joint doctrine is consistent with a recent RAND report focusing on IO. RAND analysts

determined that success or failure in IO was directly a function of the commander's skill:

> Success in influence operations depends on commanders' views of the battle
> space, their understanding of how to employ influence operations to achieve
> desired end states, and their interest and involvement in integrating IO with other
> combined arms operations.[6]

While this is well and good to state in doctrine and studies, one must ask whether U.S.

doctrine and training prepares commanders to possess such a vision? As the experience

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[4] Bruce D. Berkowitz, "Warfare in the Information Age," in *In Athena's Camp*, edited by John
Arquilla and David Ronfeldt (Santa Monica: RAND Corporation, 1997), 180.
[5] Department of Defense, *Joint Publication 3-13: Information Operations,* (Washington D.C.:
Chairman of the Joint Chiefs, 13 Feb 2006), xiv.
[6] Eric V. Larson, et al., *Understanding Commander's Information Needs for Influence Operations.*
(Santa Monica: RAND Corporation, 2009), xv. Note: these authors chose to "use the collective term
influence operations throughout" their monograph to refer generically to information operations, strategic
communication and psychological operations. See p. xiv.

of a recent Brigade Combat Team Commander in Iraq demonstrates, nearly two decades

of treating the informational aspects of warfare as a separate sphere of expertise has not

produced commanders with the necessary orientation. Consider Army Colonel Ralph

Baker's words:

> I admit that while I was preparing to serve in Iraq as a brigade commander, I was among the skeptics who doubted the value of integrating information operations (IO) into my concept of operations. Most of the officers on my combat team shared my doubts about the relative importance of information operations.[7]

The fact is that the core of American warfighting culture does not value informational

aspects of warfare and therefore does not consistently produce commanders who are

skilled in these new disciplines. COL Baker goes on to say that this condition is not

sufficient given the character of modern combat:

> It certainly did not take long to discover that the traditional tools in my military kit bag were insufficient to successfully compete in this new operational environment. The reality I confronted was far different from what I had professionally prepared for over a lifetime of conventional training and experience.[8]

Most importantly though, COL Baker came to realize that for IO to be effective he

personally had to take charge of his command's informational efforts by integrating an

informational approach throughout his concept of operations and forcing his staff and

subordinate units to place priority emphasis on these unfamiliar and uncomfortable tasks:

> To dominate the IO environment, we need to ensure that information operations receive the same level of emphasis and involvement that our commanders have traditionally allocated to conventional maneuver operations.[9]

In summary, COL Baker concludes that "information operations are Operations,

and…that means commander's business."[10]   COL Baker's reflections are corroborated

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[7] Ralph O. Baker, "The Decisive Weapon: A Brigade Combat Team Commander's Perspective on Information Operations," *Military Review* (May-Jun 2006): 13.
[8] Ibid.
[9] Ibid., 31.

by General Chiarelli who wrote two articles validating the requirement for conventional commanders to gain competence in the informational aspects of warfare. Reflecting on his experiences as both a Division and a Corps commander in Iraq, GEN Chiarelli determined that IO specialists could never be the key to our national ability to conduct IO:

> Although IO and PA officers, effects coordinators, and others provide critical staff support to the information campaign, commanders must take the lead and be intimately involved in ensuring that the information aspects of military operations are considered in every action we undertake.[11]

The key is appreciating that "every action we undertake" creates information. Every action observed, either directly or indirectly via information technology, creates perceptions that are themselves the key to victory or defeat. This is a new way of thinking about war that runs counter to the American belief that physical force is preeminent. From an Information Age perspective physical force is best understood as a means to achieve cognitive ends. This is Clausewitz's central message: the violent act of war is an extension of politics. To embrace it, "IO" can no longer connote a separate form or type of military operation. Instead, "IO" must become a surrogate term for an emerging facet of the U.S. military ethos -- a description of a warfighting culture that intuitively designs and conducts all operations with key audiences in mind, and maintains a persistent appreciation for political implications. Such an approach necessarily requires commanders and operators who are well versed in the artful integration of the full spectrum of lethal and non-lethal capabilities available in a joint, multinational and

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[10] Ibid., 16.
[11] Peter W. Chiarelli, "Learning From our Modern Wars: The Imperative of Preparing for a Dangerous Future," *Military Review*, Sep-Oct 2007, 10.

civilian force.[12] Developing just such an Information Age Operational Art is the second

critical requirement for coming of age.

Information Age Operational Art

Recognizing that IO is commander's business means that it is part of military art.

Indeed, the central message of this thesis is that the U.S. has erred by attempting to make

IO a science, when in fact it is our art that needs renovation. The appropriate place to

integrate the ideas and concepts currently found in IO doctrine is under the rubric of

Operational Art. Joint Publication 5-0 describes Operational Art as "the application of

creative imagination by commanders and staff – supported by their skill, knowledge, and

experience – to design strategies, campaigns, and major operations and organize and

employ military forces."[13] Operational Art is the name for the thinking process

professionals employ in *visualizing* their assigned mission and then *directing* forces.

This is the core of operational warfare, the vital center wherein political objectives are

translated into tactical actions. Recognition that IO is a logical, politically centered

concept underscores why it is endemic to Operational Art, and subsequently cannot be

delegated. Evolving our Operational Art will demand all the energies of the American

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[12] Timothy P. Franz, Matthew F. Durkin, Paul D. Williams, Richard A. Raines, and Robert F. Mills, "Defining IO Forces," *Air and Space Power Journal,* (Summer 2007), 61. These five U.S. Air Force officers argued particularly well for just such an integrated approach:

> We have effectively sidestepped integration and instead simply developed IO as a separate entity. In doing so, we have created everything from IO doctrine to IO organizations to IO training blocks of PME, all independent of…operations. Effects achieved within the cognitive domain represent the impetus for all operations and thus must become an integral part of every capability and the basis for how all operators approach mission planning and execution. Every effect of every objective of every strategy supports an end state that aims at affecting the cognitive domain.

[13] Department of Defense, *Joint Publication 5-0, Joint Operation Planning,* (Washington D.C.: Chairman of the Joint Chiefs, 26 December 2006), IV-1.

military profession. It will require the elimination of some cherished concepts and the expansion of others.

For example, the doctrinal insistence that we envision a distinct "Information Environment" is particularly unhelpful in creating unified physical and informational activities. The notion that there exists a "principal environment of decision making" that should be "considered distinct" from the physical world confuses our basic understanding of what information is and inhibits unified action.[14] In order to understand things more deeply, Western civilizations habitually divide matters into discrete chunks. This tendency manifests the enduring influence of Rene Descartes, the "Father of Modern Philosophy," who famously envisioned the human condition as consisting of distinct elements of mind and body.[15] Ever since Descartes, material humanism and "science" has encouraged the idea that only that which can be observed and measured is "real." Western military culture likewise places primacy on the physical.[16] While IO represents an attempt to integrate cognitive matters into military doctrine, it remains a divided approach. Information is a complex concept that demands a unified worldview. The

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[14] Department of Defense, *Joint Publication 3-13, Information Operations* (Washington D.C.: Chairman of the Joint Chiefs, 13 February 2006), I-1.

[15] Mind/body dualism is a theme well documented in philosophical texts, however, here is a unique treatment of the topic which pertains directly to Information Age challenges: "Much of the difficulty in imagining computers and ourselves woven together within a larger sacred whole stems from our entrenched habit of dividing the world into discrete categories. This habit, which we have been practicing with some success for more than four hundred years, is better known as dualism. Rene Descartes is perhaps the most famous advocate of this philosophical position. Descartes divided the universe into the tidy categories of mind and matter, two ultimate and distinct substances whose interaction was problematic at best. Ever since Descartes, some of the most gifted philosophers in the West have been trying to crack the conundrums posed by material dualism, asking how mind and matter interact. Materialist science has concluded that matter is prior to mind." The U.S. military, itself a product of enlightenment thinking, has culturally concluded likewise. Jennifer Cobb, *Cybergrace: the search for God in the digital world* (New York: Crown Publishers, 1998), 8.

[16] Exemplified by this line in the current Joint Advanced Warfighting School Planning Primer, "There is only one reality and that exists within the physical dimension."   Joint Advanced Warfighting School, "Operational Art and Campaigning Primer AY 09-10," (Norfolk: Joint Forces Staff College, July 2009), 248.

U.S. military must recognize that information (like war) has a dual nature, with simultaneous physical and cognitive existence.[17] Therefore, to be effective our doctrine should not envision separate physical and informational realms. The "Information Environment" should be eliminated.

Instead, our military would be better served to think of information as an environmental condition, something akin to temperature, or more appropriately, light. This is an analogy requiring much more development, but the suggestion is that our military can research ways to describe the informational characteristics of the operating environment that would assist all forces in determining how to employ their capabilities effectively. For example, temperature and illumination are factors that affect the employment of ground, air and sea forces differently. If the U.S. military can determine meaningful ways to characterize the informational dynamics of a given area of operations, then all combat, logistics, communications, civilian and other actors can adjust their operations in accordance with informational conditions. Adjustments for informational conditions would be similar to modifications made in response to changes in the weather. Clearly we do not know how to characterize informational conditions adequately, but the metaphor has more potential to model reality accurately than does a discrete "Information Environment."

Light, as a dynamic and mysterious phenomenon, may provide a rich metaphor for thinking about how to characterize information. Just as light has both wave-like and particle-like properties, information has both physical and cognitive properties. Military

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[17] Bryan N. Sparling, *Information Theory as a Foundation for Military Operations in the 21st Century,* School of Advanced Military Studies (SAMS) Monograph, (Leavenworth: U.S. Army Command and General Staff College, 2002).

professionals know the capabilities and limitations of their forces as affected by the brightness and color of light. Similarly, we need ways of understanding information, so that all military professionals, not just "information specialists," can know how to modify their art appropriately given varying levels of information "intensity" in the operating environment. In this concept, identifying the informational characteristics of the operations area, using standardized methods, becomes a critical aspect of Joint Intelligence Preparation of the Operations Environment (JIPOE) within the Joint Operations Planning Process (JOPP). Leveraging the practical data used to characterize the informational aspects of the operating space would accordingly become the responsibility of all warfighting functions, not the sole responsibility of information operations specialists.[18]

Beyond eliminating the Information Environment concept, doctrine development should build upon the lessons that operational commanders have learned in Iraq and Afghanistan and focus on expanding and updating the concept of Operational Art. Doctrine should integrate the thinking currently represented in IO doctrine into basic warfighting concepts. Elements of informational thinking have begun to appear in foundational publications such as JP 3-0 and JP 5-0, but their presence is slight and implicit. Doctrine should make them explicit, especially within the discussion of the Operational Artist's tool set: the Elements of Operational Design.[19] Design Elements such as End State & Objectives, Effects, Decisive Points, and Lines of Operation are inherently concerned with the logic of war; integrating an informational approach into

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[18] The U.S. military does not employ Night Operations Officers or Cold Weather Operations Officers. Similarly, if we learn to treat information as an environmental condition, we should not have Information Operations Officers.

[19] *Joint Publication 5-0*, IV-4.

their discussion would be straightforward and a significant step toward unifying

Operations and Information Operations.[20]

Modifying other design elements would be more subtle, but nonetheless effective. For example, discussion of the "Direct vs. Indirect" element is currently vague and metaphorical. Given that it concerns "the essence of operational art," which is "determining how to allocate available friendly resources against an enemy COG," this element could easily be modified to weigh whether a commander seeks a physical, kinetic solution or an influential, coercive, informational approach. The "Forces and Functions" element could be similarly reconsidered.

Finally, doctrine should consider adding "Perception" to the list of Operational Design Elements. Perception would be akin to Strategic Communication; it would specify intention to identify and understand the perspectives of key audiences that have a direct impact on mission success, and then to design operations with these audience's perceptions and anticipated reactions in mind. Such an understanding must assess all means employed, including lethal force. Strategists must ask, "How will the local populace view our actions? How will strategic partners and the American people perceive our operation?" This perceptional analysis should be a natural part of the calculus of the new American warfighting art; part of the instinctive way we teach future generations of commanders to think. Leader development -- teaching future commanders

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[20] It is in this area that the American IO mindset often commits its most egregious errors by engendering talk of separate "IO Campaigns", separate "IO Objectives", and "IO Effects." Fortunately, operations since Sep 2001 have largely eradicated these poor habits developed in the early days of IO. It is however, still quite popular for planners to designate separate "IO Lines of Operation" in their campaign plans. Until such time that an informational appreciation becomes organic to American Operational Art, such IO LOO's will likely remain.

to think -- is the third and final critical recommendation for transforming the American way of war.

Information Age Operators

The preceding discussion highlights that Information Age warfare places an enormous premium on junior leaders. The interconnectedness of our globalized world accelerates a trend that long ago began increasing the strategic importance of tactical actions. In 1950, Sir B.H. Liddell Hart lamented the increasing demands that Industrial Age warfare placed on junior officers:

> Platoon and company and battalion commander's…segment of the battle was transformed from a mere straightforward push into a theatre of manoeuvre, providing in miniature almost as much scope for tactical skill and tactical combination as generals, only, had possessed in the past. All this gave the junior officer much more opportunity but also increased his responsibility, and raised the standard required of him. At the same time the demand on his mental powers was multiplied, and his problems complicated, by the variety of new weapons that were introduced."[21]

Liddell Hart further explained that coming into WWI a company commander was essentially only concerned with the rifle. Battalion commanders only had the added complexity of one or two machine guns. But by the end of WWI, "infantry armament had been extended to embrace light machine-guns, mortars, hand-grenades, and rifle-grenades – both explosive and smoke projecting."[22] This reality demanded that junior leaders possess an increased knowledge and expertise commensurate with their expanding area of influence.

Besides managing a suite of modern weaponry that is orders of magnitude more complicated and lethal than that above, twenty-first century junior ground commanders

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[21] B.H. Liddell Hart, *Defence of the West,* (London: Cassell and Company LTD, 1950), 311.

[22] Ibid., 312.

must be able to direct artillery, call in air strikes and direct ballistic missile attacks as well as operate computers and communications systems -- all the while acting in consonance with complicated Rules of Engagement (ROE). These tasks must be accomplished while coordinating with coalition partners who speak different languages and increasingly come from wholly different civilization cultures. Today's junior leaders must coordinate and execute all of these actions to combat an enemy that hides among the people, constantly changes tactics and adheres to a different set of norms and morals. Adding to this complex milieu the requirement to interact with the media in a professional and nuanced manner while worrying about the impact of one's actions on the perceptions of global audiences is perhaps more than should be asked of a single human being. But such is the contemporary operating environment in which American junior leaders – very junior leaders – find themselves. Competence on today's and tomorrow's battlefields will demand leaders with equal physical and mental capacities.[23]

Preparing for the cerebral challenges of contemporary warfare will mean placing a higher premium than ever on education. This will in turn require a cultural shift within the services away from a historically demonstrated bias for *action* over *thought*. Colonel (Retired) Lloyd Mathews, Ph.D., argues forcefully that a "current of anti-intellectualism…has coursed through American arms from its earliest beginnings to the present day."[24] The traits which the uniformed services have valued most are not ones of

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[23] Chiarelli, "Learning From our Modern Wars," 10, 12. General Chiarelli reinforces this point stating, "In today's complex, constantly changing climate…we must develop leaders at all levels, from small-unit to strategic and political, who are agile and sophisticated enough to make adjustments." And, "We in the military must significantly improve our ability to compete in the information arena…by insuring that our leaders develop the critical skills and intuition required to understand the complex second and third order effects of their decisions and how they may play out before many different audiences."

[24] Lloyd J. Matthews, "Anti-Intellectualism and the Army Profession" in *The Future of the Army Profession, 2nd Ed.*, eds. Don M. Snider and Lloyd J. Matthews, (New York: McGraw Hill, 2005), 61.

contemplation, but of action. Consequently, those that have risen to the highest ranks have been those able make things happen. "With few exceptions, the thinkers – that is, the intellectuals – culminate their careers as field grades, while the doers, or operators, who run the Army, move on to monopolize the general officer ranks."[25]

Fortunately, the services may now be in a truly unprecedented posture to alter this trend. A host of senior leaders in the highest positions across our military today represent a distinct departure from our history of categorical anti-intellectualism. Admiral James Stavridis, Supreme Allied Commander – Europe, and General David Patraeus, Commander U.S. Central Command, are both well published scholars holding earned doctoral degrees. The Chairman of the Joint Chiefs of Staff, Admiral Michael Mullen; the Army Vice Chief of Staff, General Peter Chiarelli; the Commander of U.S. Strategic Command, General Kevin Chilton; and the Commander, Joint Forces Command, General James Mattis have all published widely, demonstrated themselves as astute students of military history, and are proven aggressive supporters of innovation and change. Perhaps most significantly, the campaign that General Stanley McChrystal is currently waging in Afghanistan shows a truly unprecedented appreciation for informational dynamics and a willingness to take actions uncharacteristic of American military tradition.[26]

While the United States is fortunate to have this bevy of scholars as its most senior military leaders, one must acknowledge that these officers managed to become

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[25] Ibid., 80. Lest we believe that the Army is the standout among the services in this regard, it should be noted that the Army is likely the *most* supportive of higher education of its officer corps. The Army and the Air Force send officers to both mid-level staff college and senior level war college, the Navy in contrast sends officers to one or the other, and often neither if another year at sea can be worked into the career.

[26] For example, the recent operation into Marja, Afghanistan, was widely announced in direct contradiction to the American Principle of War that operations should be characterized by "surprise." Jonathan Marcus, "Afghanistan conflict an 'information war'," *BBC*. Feb 11, 2010. http://news.bbc.co.uk/2/hi/south_asia/8511477.stm (accessed Februrary 17, 2010).

who they are in spite of service developmental systems that do not strongly revere

scholarly achievement.[27] These officers are the exceptional products of their service

developmental systems, but the culture of the institutions through which they were raised

remains decidedly action-oriented. It has taken almost a decade of war to get this suite of

senior leaders into position. These officers were not the cadre that led our nation through

the early, failing years of the Global War on Terror. Our national challenges in these

wars have prompted our civilian masters to search out the military's most innovative

leaders. As a result the U.S. is now well postured for an era of revolutionary change

wherein these leaders can influence the development of new service cultures that place a

premium on high quality thought, and create a professional development system that

prepares leaders at all levels for the rigors of Information Age warfare.

Liddell Hart, through his exceptional prescience, noted in 1950 that one could no

longer expect military leaders to be mere executors; battlefield leaders had to understand

deeply the purpose for which they were fighting:

> …battle has become a team-game on the largest scale, in which the junior leaders
> are players not pawns. 'Theirs is not to reason why, theirs is but to do and die,'
> is an out-of-date conception, and it is time that we gave full recognition to the
> implications of the change. The junior leaders have always borne the brunt of
> war, and do so still; but their intelligent initiative, and its cultivation, have now
> become vital factors in determining the issue.[28]

If this was true in 1950, it is exponentially more so today. In today's globally

interconnected environment, American soldiers can no longer maintain the fantasy that

they should be able to employ violence and simply pursue the destruction of enemy

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[27] Major General Robert Scales, "Too Busy to Learn", *Proceedings.*
http://www.usni.org/magazines/proceedings/story.asp?STORY_ID=2195 (accessed Feb 15, 2010).
    [28] Liddell Hart, 315.

forces without an appreciation for how such destruction will translate into a political solution or a better peace.[29]

Until the American conception of war becomes unified, there will unfortunately still be a requirement for concepts like IO. Until American commanders come to recognize that IO is organic to Operational Art, they will wrongly look to a cadre of specialists to assist them in what they cannot conceive to be their business. But neither the existence of IO doctrine or IO specialists can negate the enduring requirement for commanders to understand the thoroughly political nature of war. The longer we allow American history and culture to prevent us from appreciating Clausewitz's central message and the longer we allow enthusiasm for action to displace quality thought, the more we risk continued tactical victory at the expense of strategic defeat.

It is time for the American art of war to come of age.

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[29] The 1995 version of Army FM 100-5 Operations stated, "The ultimate military purpose of war is the destruction of the enemy's armed forces and will to fight." U.S. Army, *Field Manual 100-5, Operations,* (Washington D.C.: Department of the Army,1993), 2-4.

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